

The case is now in the hands of
See JUDGE, Page 9

This Guy depends on Jasmine.

I depend on Jasmine hard disks to evangelize 4th Dimension.[®] And evangelizing 4th Dimension is the most important thing I do. I use Jasmine drives every day—an InnerDrive™ 45 at the office and a DirectDrive™ 100 on the road.

In fact, I chose this briefcase specifically to fit my DirectDrive 100 when I'm traveling.

When you're looking for a high performance, reliable drive to support your valuable database, choose Jasmine. I've demonstrated 4th Dimension to over 10,000 people on my Jasmine drive.

To prove how confident I am, we're making this terrific offer. Buy any hard disk from Jasmine before December 15 and get 4th Dimension version 1 at \$400—that's almost a \$300 savings!

Call Jasmine today at 1-800-347-3228 and depend on the best—Jasmine Drives and 4th Dimension from ACIUS.

You can too.



Jasmine

Jasmine Technologies, Inc.
1740 Army Street, San Francisco, CA 94124
Telephone 415/282-1111

Guy Kawasaki - President, ACIUS Inc.

Battery-powered Walkmac scores at debate

ROM-card option for data storage

BY CLAIR WHITMER

FRESNO, Calif. — If you were closely watching the second debate between the presidential candidates two weeks ago, you might have caught a glimpse of Peter Jennings or his producer using a new product from Colby Systems Corp.

To run an ABC network HyperCard stack that tracks information on the candidates and issues, the two newsmen used a new configuration of Colby's Walkmac SE during the debate, freeing them from depending on a wall-plugged Mac.

Although Colby has sold variations of the machine for more than a year, this new Walkmac features an internal battery option and a lighter base weight than earlier versions.

The latest and greatest Walkmac comes standard with a Mac SE processor, a back-lit double super-twist LCD display, 1 Mbyte of memory, a numeric keypad, a battery recharger and an option for either an internal or external battery.

Including the weight of a hard disk, the unit weighs 12 pounds. The internal NiCad battery adds about

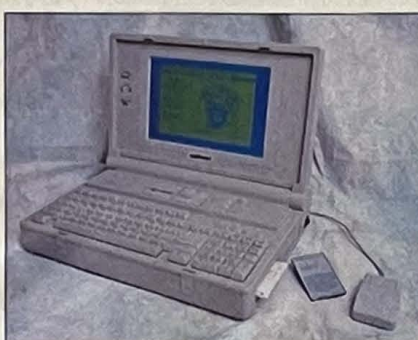
3 pounds more weight and runs up to three hours without recharging. The hard disk can be temporarily turned off to conserve the battery.

The new Walkmac is an improved version of the Macpresenter system shown at Macworld Expo in August. During development the company discovered so many new features it wanted to implement, said Chuck Colby, Colby president, that the original project was scrapped for yet another new machine.

A key feature promised for that product, a removable screen that can be placed on an overhead projector, will be available for the latest model early next year, he said.

A unique feature of the new Walkmac is its Keyplug, a combination diagnostic port and security switch. The machine can be turned on only when this specialized plug, small enough to hang on a key chain, is inserted, Colby said.

In addition to ensuring that a Walkmac can't be used without its owner's permission, the plug makes it easy to determine what's wrong if a machine malfunctions. Since most of the computer's signals are chan-



Colby's Walkmac weighs in at 12 pounds.

neled through this port, it can be used to connect to a Colby-developed diagnostic unit.

Walkmac prices start at \$5,449. Options such as internal or external hard drives, accelerator cards, and external peripherals, like monitors and a battery-powered WORM drive, are priced separately.

Another option available next year will be the Touchpad, a touch-sensitive pad on the keyboard above the regular characters that lets users control the cursor with a finger instead of a mouse.

At the same time, Colby will add an Epson-manufactured ROM-card reader to its options list. The reader will be available in place of a hard disk drive. It accesses cards that combine varying amounts of ROM,

EPROM and RAM memory. Some cards even have a tiny battery that can be used to back up RAM in case of system failure. The ROM card option is likely to cost about \$2,000, Colby said.

Apple's portable is reported to use a similar technology called SLIM cards. But in the meantime, the use of the technology has been validated by two other laptop manufacturers.

NEC Home Electronics has introduced its UltraLite with a ROM card reader as a standard feature in place of a floppy drive. NEC said it will cooperate with developers like Lotus, WordPerfect and Microsoft to deliver some of their best-selling software on ROM cards. On a smaller scale, the Wizard hand-held organizer from Sharp Electronics also reads ROM cards; three developers have already announced plans to put software on cards for the product.

This new technology is intended to store one or two programs needed on a daily basis. Since there are no moving parts, ROM cards have faster access speed and are more impervious to damage than magnetic media. Both Sharp and NEC said the technology eventually will have much greater capacity than it does now.

Colby Systems Corp. is at 4723 N. Warren Ave., Fresno, Calif. 93705; (209) 222-4985. □

An XTree grows on the Mac

SAN LUIS OBISPO, Calif.—XTree, the best-selling disk management utility package for MS-DOS machines, will soon be sprouting on the Mac.

The XTree Co., a division of Executive Systems Inc., plans to show XTree/Mac at Comdex in Las Vegas later this month. Designed especially for use on large-capacity hard disks, the XTree application will provide a graphical directory in tree-chart format from which users can copy, move and delete files and folders. The program also will include file-finding, undelete, disk-optimization and virus-protection features.

XTree/Mac will offer a split-screen view, with the directory tree on the left side and on the right a "visual work surface" called Desktop, where users can gather and manipulate files and folders.

Priced at \$99, XTree/Mac is scheduled to be released in the first quarter of 1989.

The XTree Co. is located at 4330 Santa Fe Road, San Luis Obispo, Calif. 93401; (805) 541-8053. □

IN THIS ISSUE

NEWS

- 4 New high-capacity storage offerings
Storage Dimensions, Imprimis Technology roll out new products.
- 4 Mac Architrion upgraded
Copy-protection key removed; new features added.
- 6 No coins needed for archival 'jukebox'
Mac front end controls new optical document storage and retrieval system.
- 6 Barneyscan releases Mac interface card
Barneyscan XP connects Mac II to Barneyscan high-resolution scanner.
- 6 Apple takes over APDA
Company will provide its own services for developers.
- 10 Low-cost scanner from Xerox
\$2,000 scanner with 64 gray levels challenges Apple, other vendors.
- 10 MacInTouch
SUM update fixes some problems, leaves others unresolved.
- 14 Behind the news
Corporate Mac users find that they need advance planning to avert desktop publishing pitfalls.
- 14 StackWEEK
Hilting background buttons.
- 16 Teaching aids for corporate trainers
In-house trainers who don't have a lot of Mac experience can turn to Macademics for help.
- 17 Maple goes up against Mathematica
Equation-solving program for mathematicians ported to Mac.



Newspapers Increasingly rely on Macs, see Pages 18-21.

- 18 Newspaper designers meet
Mac users group planned.
- 19 Imprint Newspapers goes wholly Mac
Weekly chain buys complete system.
- 21 Publishers see Macs in action
Conference explores use of micros.

OPINION

- 22 Editorial
The NeXT computer may be most significant as a catalyst.
- 22 Letters
- 22 Mac Soapbox
Leonard Charnoff details deterrents to garish presentations.
- 24 Visible Results/Steve Rosenthal
Using a Mac to read IBM-style CD-ROM discs.
- 24 Round Robin/The Arts
Creative professionals needs to view computers as tools, not competitors.
- 74 Mac the Knife

IN PROFILE

- 30 Major candidates not clear on high tech
Bush and Dukakis don't have much to say about high-tech issues.
- 34 Voters to weigh work-place safety
Restoring a controversial safety program is on the ballot in California.
- GA
- 36 Desktop phototypesetting
Low-priced PostScript phototypesetters are becoming common.
- 37 Boldface
Ezra Shapiro points out that desktop publishing can sometimes be overkill.

WINDOW ON

- 40 Breakthroughs in scanner technology
The current generation of scanners and OCR programs lets Macs read text with both speed and accuracy.



Word processing becomes more like desktop publishing, see Page 46.

- 48 Solutions/User Connection

REVIEWS

- 52 Acknowledge helps communications
You can put a familiar interface on a foreign host by writing custom applications with Acknowledge.
- 52 The Week in Reviews
Portable options.
- 54 Swivel 3D raises 3-D graphics standards
Color modeling program can present realistic looking and moving objects.

BUSINESS WATCH

- 69 Small Apple dealers unite
100 resellers form new organization.
- 69 Adobe buys into forms market
Acquires TrueForm maker.
- 71 Apple renews Falcon contract
Reseller is channel to federal GSA.
- 72 Many Apple alumni at low-key company
The Engineering Department quietly plays major role in Mac technologies.
- 58 Ad Showcase
- 62 Ad Index
- 63 Classified
- 67 Career Opportunities

MacWEEK is produced using an in-house system of: Apple Macintosh SEs and Mac IIs; LaserWriter, Vantyper VT-600 and QMS ColorScript 100 printers; a Linotronic 300; an Abaton Scanner; RasterOps, E-Machines and SuperMac monitors; Quark XPress; PageMaker; Adobe Illustrator; Aldus FreeHand; SuperPaint; Microsoft Word; LaserPaint; PixelPaint and Cricket Draw software.

High-capacity MacinStor, Wren drives rolled out

BY RENEE MATHEWS

SAN JOSE, Calif. — The high-capacity storage battle will heat up again this week as Storage Dimensions and Imprimis Technology Inc. unveil products ranging in capacity from 45 Mbytes to 1.05 Gbytes.

Storage Dimensions, a San Jose, Calif.-based subsidiary of Maxtor Corp., will make its entry into the Mac market with the rollout of its MacinStor line, including internal and external hard drives as well as an optical WORM drive.

The LaserStor external WORM drive with SCSI interface offers Mac users 800 Mbytes of data storage. The plug-and-play system comes with one 800-Mbyte media cartridge and features a data transfer rate of 1 Mbyte per second. LaserStor will begin shipping next month.

Two classes of external drives will also be offered. The zero footprint (ZFP) series includes 45-, 90- and 180-Mbyte models. Average access times for the drives range from 18 milliseconds to 29 milliseconds. Data transfer rates average 15 Mbps.

The HCV series features two higher-capacity external models that offer 335 Mbytes and 630 Mbytes of storage. Average access times are 14 milliseconds for the HCV335 and 16.5 milliseconds for the HCV630, with a data transfer rate of 15 Mbps on both models.

Internal drive models include the MacinStor 45i and 90i for the Mac SE, II and IIX. Both versions have average access times of 29 milliseconds and 15-Mbps data transfer rates.

Higher-capacity internal models will also be introduced for the Mac II and IIX, including 180-, 335- and 630-Mbyte drives with average access times of 18, 14 and 16.5 milliseconds, respectively, and 15-Mbps transfer rates.

Storage Dimensions is shipping the drives immediately.



Imprimis said its Wren VII is the highest-capacity drive available.

Imprimis Technology of Minneapolis, a subsidiary of Control Data Corp., will introduce three new members of its Wren family of 5.25-inch drives, including the 1.05-Mbyte unit, which the company called the highest-capacity drive in the industry.

Called the Wren VII, the drive uses zone bit recording (ZBR), a technique for making hard disks more efficient by packing extra data on the platter's outer tracks. "The benefit of zone bit recording is that it gives you one-third more capacity without increasing the technology of the heads or the media," said Tony Maggio, Imprimis Technology's vice president of engineering. Imprimis applied ZBR to its previously announced 760-Mbyte conventional disk drive to achieve the 1-Gbyte plus capacity.

The average seek time for the Wren VII is 16.5 milliseconds and the data transfer rate is 19 Mbps. Evaluation units of the drive will be available to OEMs during the second quarter of 1989, with production units to follow in the fourth quarter. Prices on the drive have not been determined.

Imprimis will also announce the Wren Runner, a full-height SCSI drive that formats to 338 Mbytes and features a 10.7-millisecond average seek time.

The Wren Runner also employs ZBR technology and offers a data transfer rate of 15.5 Mbps. Evaluation units will be available this month and production units are anticipated for the first quarter of 1989. Imprimis has priced the drive for OEMs at \$1,495 in quantities of 5,000.

In addition, the company will unveil the Wren VI, a half-height 380-Mbyte drive with an ESDI, or PC AT, embedded controller. Imprimis intends to

offer a SCSI version of the drive within the year, according to Maggio. The Wren VI offers an average seek time of 16 milliseconds and a data transfer rate of 15 Mbps.

Storage Dimensions is at 2145 Hamilton Ave., San Jose, Calif. 95125; (408) 879-0300.

Imprimis Technology Inc. is at 8100 34th Ave., Box O, South, Minneapolis, Minn. 55440-4700; (612) 853-5795. □

More vendors join removables fray

IRVINE, Calif. — Mac users will have two more removable data-storage products to choose from when MicroNet Technology Inc. of Irvine, Calif., and Mirror Technologies of Roseville, Minn., begin shipping new systems this week.

MicroNet Technology will introduce the Micro/Removable, Model MR-45, which offers users 45 Mbytes of data storage on a 5.25-inch hard disk cartridge. The SCSI system is based on a SyQuest Technology drive built into a case suitable for placement under a Mac Plus or SE. Available immediately, the unit carries a retail price of \$1,795 including one cartridge. Additional cartridges are priced at \$189 each.

The MR-45 has a data transfer rate of 1.2 Mbytes per second and an average access time of 25 milliseconds.

The Shadow RM 20 from Mirror Technologies is based on a 20-Mbyte system from Data Technology Corp. The system uses 5.25-inch Verbatim floppy-media cartridges. It has an average seek time of 60 milliseconds with a data transfer rate of 2.64 Mbps.

The RM 20 is priced at \$899. Users can purchase three 20-Mbyte cartridges from Mirror Technologies for \$169.

The company plans to introduce an optical disc system in early 1989. MicroNet Technology Inc. is located at 13765-A Alton Parkway, Irvine, Calif. 92718; (714) 837-6033.

Mirror Technologies is at 2644 Patton Road, Roseville, Minn. 55113; (612) 633-4450. — By Renee Mathews

Mac Architrion upgraded, copy protection lifted

BY LASLO VESPREMI

SAN FRANCISCO — Mac Architrion, the high-end French CAD package imported to the United States earlier this year, is getting a host of new features and losing an old one that has been less than popular with American users.

Version 4, an upgrade due to ship this week, will be free of the "dongle," or copy-protection hardware key, that accompanied previous releases and remains in the European version of the program, according to Dominique Gator, president of Gimeor, the French company that distributes the program.

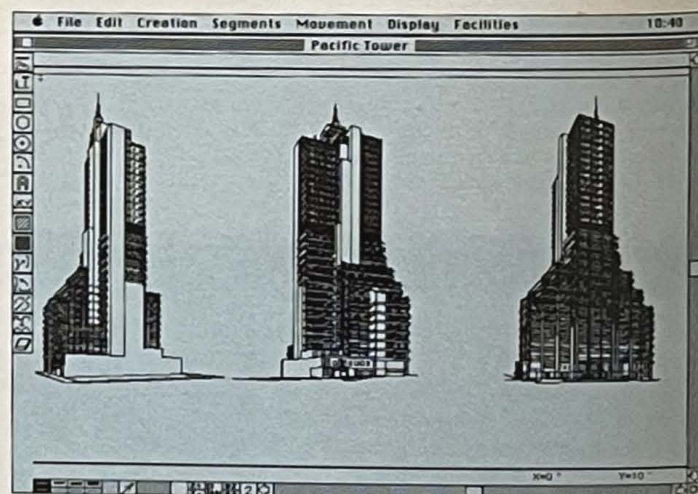
The upgrade package will include both Mac Architrion Version 4.0 for the Mac Plus and SE without a 68881 math coprocessor and Version 4.2 for the Mac II and SEs equipped with a coprocessor. Both feature a more user-friendly two-

dimensional module, the company said. Many operations can be done with MacDraw-like ease, and new options like rubber banding and dimensioning "witness lines" have been added.

In the program's 3-D module, architects can now work directly in the section mode and edit attributes that carry over to all views. Mac Architrion's third module, the Bill of Materials, has been enhanced to include all material, objects and list prices. Results can be output directly to a spreadsheet like Excel.

Gimeor plans to market an even more advanced version in Europe that will render buildings in solid shaded models and in full color. Plans call for a U.S. color version to be shipped by early next year.

The price of Mac Architrion 4.0 and 4.2 remain \$1,495. Gimeor's U.S. office is at 1815 H St., N.W., Washington, D.C. 20006; (202) 223-4373. □



With Architrion, architects can edit attributes that carry over to all views.

Word 4.0 to ship by year end

REDMOND, Wash. — Now that the October ship date for Word 4.0 has come and gone, Microsoft Corp. revealed last week that it now intends to get the newest version of its word processing software out the door before the beginning of 1989.

In a letter sent to beta testers and another to users who had already signed up for Word 4.0 upgrades, Microsoft committed itself to releasing the new version by year end.

At least two more rounds of beta seeding are planned before Word 4.0

becomes a reality, endowed with such features as an improved interface, an editable near-WYSIWYG page view mode, table-making capabilities, live data links to other applications, direct access to Microsoft Mail from within Word and a long-awaited word-count command.

Before shipping Word 4.0 to new users for \$395, Microsoft will fill all upgrade orders, which cost \$75.

Microsoft is at 16011 N.E. 36th Way, Redmond, Wash. 98073-9717; (206) 882-8080; (800) 426-9400. □

Ehman breaks \$500 for 32-Mbyte drive

EVANSTON, Wyo. — Ehman Engineering Inc. has broken the \$500 price barrier with a \$499 32-Mbyte external drive for the Mac.

"Let's face it," said Mike Ehman, president of Ehman Engineering, "Mac users are being gouged a bit. We're in a position where we can offer a lower price and still provide greater reliability." He cited low overhead costs in economically depressed Evanston, Wyo., where the company is located.

Called the HDD32, the SCSI drive is based on a 3.5-inch Seagate mechanism with an average access time that Seagate rates at 28 milliseconds, but Ehman said is actually even faster. The drive will include an external SCSI address switch, automatic head parking and a terminate on/off switch. The HDD32 will ship by December, Ehman said.

Ehman Engineering is located at 97 S. Red Willow Road, Evanston, Wyo. 82930; (307) 789-3830. □

MACINSTOR LARGE-CAPACITY DRIVES

Model	List Price
Internal hard disks for the Mac SE	
MacinStor 45 SE/i	\$1,099
MacinStor 90 SE/i	\$1,499
Internal hard disks for the Mac II and IIX	
MacinStor 45 II/i	\$1,099
MacinStor 90 II/i	\$1,499
MacinStor 180 II/i	\$2,699
MacinStor 335 II/i	\$3,999
MacinStor 630 II/i	\$7,779
External hard disks for the Mac Plus, SE, II and IIX	
MacinStor 45 ZFP	\$1,299
MacinStor 90 ZFP	\$1,699
MacinStor 180 ZFP	\$2,899
External high-capacity hard disks for the Plus, SE, II and IIX	
MacinStor 335 HCV	\$4,199
MacinStor 630 HCV	\$7,999
External WORM subsystem for the Plus, SE, II and IIX	
LaserStor Optical for Mac	\$4,999

WHY NO OTHER INEXPENSIVE LASER PRINTER CAN PRINT THIS STATEMENT.

At \$1999, our Personal LaserPrinter (PLP) costs about \$800 less than Apple's LaserWriter II SC.* But that's the least of many good reasons why you should buy one.

One of the best is demonstrated, in rich and varied prose, above.

The PLP is the only laser printer in its category that lets you print in any number of point sizes, even fractionals. The LaserWriter II SC, by contrast, lets you print in any number of point sizes as long as the number is six.

The PLP gives you unlimited free-



dom in reducing and enlarging documents (critical for applications such as Excel and PageMaker®).

The LaserWriter II SC doesn't.

With the PLP, italics are true *italics* and bolds are true **bolds**

—because the PLP uses true outline fonts. The LaserWriter II SC doesn't.

All this begs an obvious question: how can we offer so much functionality and still charge less for it?

The answer is software—software that enables your Macintosh to use its own resources to do the processing that would otherwise require

costly additional hardware.

But there's another reason the PLP performs better: it has to.

After all, in a market saturated with laser printers, there are plenty of opportunities to compare price and performance. The PLP simply provides a higher standard of comparison.

For a PLP demonstration—or information on our ImageWriter® trade-in program—see your authorized GCC Technologies dealer. For the one nearest you, call (617) 890-0880†

*Based on a comparison of manufacturer's suggested retail prices. †In Canada, (800) 263-1405. © 1988 GCC Technologies, Inc. GCC Technologies is a trademark of GCC Technologies, Inc. The GCC Technologies logo is a registered trademark of GCC Technologies, Inc. Personal LaserPrinter and PLP are trademarks of GCC Technologies, Inc. Macintosh is a trademark of Apple Computer, Inc. LaserWriter and ImageWriter are registered trademarks of Apple Computer, Inc. PageMaker is a registered trademark of Aldus Corp. The document above was created with PageMaker 3.0 and printed on a GCC Technologies Personal LaserPrinter.

PUBLISHER/Michael Tchong

EDITORIAL

EDITOR/Daniel Ruby

EXECUTIVE EDITOR/Daniel Farber

MANAGING EDITOR/Brenda Benner

SECTION EDITORS/Henry Norr (News),
Rochelle Garner (Opinion), Bernard Ohanian
(Features), Anita Malign (GA, Window On),
Rebecca Waring (Reviews)

EDITOR AT LARGE/Dale Coleman

TECHNICAL EDITOR/Ric Ford (Boston)

TECHNICAL ART DIRECTOR/Laslo Vespri

SENIOR WRITERS/Connie Guglielmo,

Rick LePage (Boston)

ASSOCIATE EDITOR/Richard Rawles (Window On)

INFORMATION DIRECTOR/Emily Brower

STAFF REPORTERS/Elinor Craig, Cliff Lehman,

Renee Mathews, Will McClatchy (Boston),

Jonathan Perrow, Jonathan Swartz, Clair Whitmer

ASSISTANT EDITORS/Stephen Howard (Reviews),

Suzanne Weber

COPY EDITORS/Charles Lenatti (Copy Chief),

John Battelle (Desktop Publishing Chief),

Janice Maloney, Carolyn Said, Sue Troy

EDITORIAL ASSISTANT/Mitzi Waltz

CONTRIBUTING EDITORS/Eric Alderman,

Alan Brody, Don Crabb, John Edwards,

Vernon Keenan, Dennis Klatzkin, Jonathan

Littman, Lawrence Magid, Steve Michel,

Steve Rosenthal, Ezra Shapiro

ART & PRODUCTION

ART DIRECTOR/Eleanor Leishman

ASSOCIATE ART DIRECTOR/Laura Stoll

PHOTO EDITOR/Jonathan Hornstein

GRAPHICS TECHNICIAN/Henri Froissart

STAFF ARTIST/Tamara Gargus

AD COORDINATOR/Michelle Gargus

PRODUCTION COORDINATOR/Carolyn Be. West

ASSOCIATE PUBLISHER

MANUFACTURING/Barri Klingman

MARKETING

ASSOCIATE PUBLISHER/Ted Welch

ADVERTISING MANAGERS/Nancy Carter,

Jeff Cohen, Michael Lamattina, Bill Peck,

Peter Stangel

ACCOUNT EXECUTIVES/Carla Daiss, Lee Kerr,

Kathy Kottenbach, JoAnn Sturtridge

ADVERTISING ADMINISTRATOR/Mary Stepp

SENIOR ADVERTISING COORDINATOR/Lulu Paw

SENIOR CIRCULATION MANAGER/Agnes Vaneek

PROMOTION DIRECTOR/Cynthia Ahart

RESEARCH DIRECTOR/Griffin Dix

PROMOTION ART DIRECTOR/Cary Suen

PROMOTION & RESEARCH

COORDINATOR/Caroline Kwok

BUSINESS MANAGER/Karen Brannan

ADMINISTRATIVE ASSISTANTS/Elizabeth

Carney, Chris Vynalek

COASTAL ASSOCIATES PUBLISHING

PRESIDENT/Kenneth H. Koppel

VICE PRESIDENT/J. Scott Bridges

VICE PRESIDENT/William Lohse

VICE PRESIDENT CONTROLLER/John Vlachos

VICE PRESIDENT OPERATIONS/Baird Davis

TREASURER/William Phillips

EDITORIAL AND ADVERTISING OFFICE: 525
Brannan St., San Francisco, Calif. 94107; (415)
852-7370. Boston editorial office: One Kendall
Square, Cambridge, Mass. 02139; (617) 577-1033MACWEEK (ISSN 0892-8118) is published week-
ly, except for two weeks at year-end, by Coastal
Associates Publishing, L.P., One Park Ave., New
York, N.Y. 10016. Single copy price including
postage: \$5. One-year subscription rate: U.S. \$75,
Canada/Mexico U.S. \$150, International: U.S.
\$300 (airmail). All orders must be prepaid.Direct SUBSCRIPTION INQUIRIES to Customer
Service Department, MacWEEK, P.O. Box 5821,
Cherry Hill, N.J. 08034; (609) 428-5000.CHANGES OF ADDRESS require that a new applica-
tion be filled out completely and include both
new and old address. Allow 4 to 6 weeks for pro-
cessing. POSTMASTER: Send address changes to
MacWEEK, P.O. Box 5806, Cherry Hill, N.J.
08034. Second-class postage paid at San Francis-
co and additional mailing offices.MacWEEK is an independent journal, not affiliat-
ed with Apple Computer Inc. Apple and Mac-
intosh are trademarks of Apple Computer Inc.
Entire contents copyright © 1988 Coastal
Associates Publishing, L.P. All rights reserved.
Material in this publication may not be repro-
duced in any form without permission. Request for
permission should be directed to Jean Lamensdorf,
Licensing Manager, One Park Ave., New York,
N.Y. 10016. MacWEEK is a
trademark of Coastal Associates
Publishing, L.P.

'Jukebox' stores archival records

Mac front end
controls CD-STAR

BY CLAIR WHITMER

ANAHEIM, Calif. — Conversion Dynamics will officially introduce its new document storage and retrieval system at this week's Macintosh Business Conference & Exposition, but in Kansas City, Mo., the product is already at work at the Waddell and Reed Services Inc. mutual fund.

Conversion Dynamics, a Birmingham, Ala.-based company, will show its CD-STAR (Compact Disk System for Transfer of Archival Records) at the conference here. The system combines CDI's proprietary retrieval software and a compound-document processor licensed from Palantir Corp. of Santa Clara, Calif., with a WORM storage system.

The company also provides the first Mac-based front end to a "jukebox" where up to 50 WORM cartridges can be stored and automatically retrieved on command from the Mac. The jukebox, which is about the size of a refrigerator, is capable of holding up to 80 million docu-



Waddell and Reed uses CD-STAR to store authorized signatures for more than 60,000 accounts, finding and retrieving them as needed.

ments, the company said. The Mac was chosen as the front end because it allowed easier storage and retrieval of graphic documents, said Jerry Kotz, CDI president.

At Waddell and Reed, the CD-STAR is being used to store the authorized signatures for more than 60,000 accounts. The signatures are scanned into the Macintosh and stored on a single WORM drive so

that when a signature needs to be verified to authorize an account transaction, the teller can scan the signature into the Mac. The combination of the optical character-recognition software from Palantir and CDI's search software then finds and retrieves the original signature.

Waddell and Reed previously used first hard copy and then microfiche for the same purpose but settled on CD-STAR and the Mac for efficiency and cost savings, said its president, Bob Hechler.

The company estimated that the \$35,000 it paid for CD-STAR will be earned back in three years. Waddell and Reed also considers its system a test case for future use of the Mac.

CDI also provides the customization for each client because the system is dependent on the type of document involved. CDI is already at work developing a CD-STAR for a hospital and an insurance company.

Although the price depends on its complexity, a small system using the jukebox equipment starts at about \$65,000, said Kotz.

Conversion Dynamics is at 1200 Corporate Drive, Suite 150, Birmingham, Ala. 35242; (205) 995-8828. □

Turnout low, intros high at Dexpo

BY JON SWARTZ

ANAHEIM, Calif. — Dexpo West 88 will probably be best remembered for its sparsely filled halls.

But what the show lacked in crowds, it made up for in Mac product announcements. More than a dozen vendors introduced products or announced shipping dates:

- Mt. Xinu Inc. of Berkeley, Calif., said a version of its XINET networking software for ULTRIX, Digital Equipment Corp.'s UNIX operating system for VAX computers, will ship later this year. XINET for ULTRIX 3.0 allows file sharing, multiple-terminal sessions and print services among Macs, MS-DOS computers and ULTRIX systems. Pricing starts at \$895.

- Integrated Solutions Inc. of King of Prussia, Pa., introduced Central System Manager, a management service for networked Macs and VAXes. The service runs on Apple's MacWorkstation, a developers' software toolkit that links Macs to host computers. CSM starts at \$2,610.

- Grafpaint, a San Jose, Calif., specialist in Tektronix terminal-emulation software for the Mac II, unveiled an enhancement to its TGRAF-07 program. The revised TGRAF-07, priced at \$995, allows images generated by mainframes in such areas as CAD/CAM, mapping and scientific visualization to be saved locally through the Mac II's cut-and-paste routines.

The Apple/Digital Integration Center, occupied by 30 third-party vendors, showcased ShowNet, a multivendor network of 75 Macs and 25 DEC VAX minicomputers, demonstrations of CAD/CAM applications, integrated work places and the technical publishing process. □

Barneyscan releases Mac II interface card

BY LASLO VESPREMI

BERKELEY, Calif. — Barneyscan is on the move again. The company last month released the long-awaited interface card that connects Mac IIs to its high-resolution 35mm scanner and announced new image-processing and retouching software to accompany the product.

Called Barneyscan XP, the package will be bundled with the scanner, initially at no extra cost. Barneyscan with XP and card will sell for \$8,995 until the end of this year. Owners of the scanner can get the card and XP software for \$1,290.

Barneyscan XP is a high-end image-processing environment that can use up to 64 Mbytes of virtual memory, allowing it to handle

images too large for available RAM. It works in both eight-bit and 24-bit modes and will support Apple's 32-bit QuickDraw when it becomes available, the company said. It offers a complete set of tools and options, a built-in color separator, and compatibility with all major file formats.

Sophisticated retouching can be done with the use of an unlimited number of channels. Any image can be split into separate channels for red, green and blue. These channels can be duplicated and further edited, allowing a retoucher extremely precise control. Edited channels can merge with or replace the original channels to alter the image.

Barneyscan is located at 1198 10th St., Berkeley, Calif. 94710; (415) 524-6648. □



XP interface allows color correction of scanned images using channels.

Apple takes over APDA

BY JONATHAN PERROW

REDMOND, Wash. — Apple is taking over the Apple Programmer's & Developer's Association under an agreement reached between the two organizations last week.

APDA, a non-profit organization that supplies services and products to Apple programmers and developers through a monthly catalog and mail-order service, has been locked in negotiation with Apple for almost a year, said APDA spokesman Frank Catalano. The result, revealed last week, is a takeover that will be gradual and seamless, he said.

"We did settle to some of the terms of the contract," said Apple spokeswoman Cynthia Macon. "We're working to bring on board APDA's certified developer group," she said, refusing to specify other details of the contract.

The A.P.P.L.E. Co-op, a \$6 million

company of which APDA has been a part, is changing its name to "TechAlliance, a computer cooperative" and will be oriented more toward services to developers and programmers, Catalano said. A new A.P.P.L.E. magazine called the MacTech Quarterly, catering to Mac programmers and set to begin publication in January, is scheduled to replace A.P.P.L.E.'s now-defunct Mac Horizons magazine.

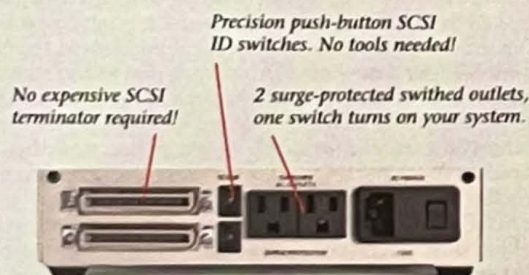
Just what Apple has in store for the hard-won developer services organization remains uncertain, although some sources have speculated that it will exclude third-party products from its offerings and provide only Apple products.

A Nov. 7 issue of the APDalog newsletter will outline in detail the terms of the agreement and what kind of support APDA members can expect from both APDA and Apple in the coming months. □

It's Lightning fast It's 45 megabytes It's removable



Simply eject the DATA♦PAK™ cartridge and take a 45 megabyte Winchester hard drive home to-night! Trustworthy and reliable, with an average access time of only 25ms it's even faster than most fixed hard drives. Imagine sending or carrying 45Mb of CAD/CAE drawings, color graphics or presentations with the ease and safety of a diskette.



The revolutionary DATA♦PAK also delivers the features you would demand in a more traditional hard drive system; self diagnostics, automatic park and lock heads, password protection, and volume

partitioning are all standard. And with its unique 8Kb buffer it adapts itself to any Macintosh, while keeping its 1:1 interleave performance.



DATA♦PAK

Use DATA♦PAK's new transportable technology as your principle storage system and gain all the advantages of ultimate security (lock it in the file cabinet), easy organization of related projects, unlimited storage capacity and fast data back-up.



DATA♦PAKduet

Available in three configurations. DATA♦PAK is a single cartridge drive system; DATA♦PAKduet™ is a dual cartridge drive system; and DATA♦PAKhd™ is a single cartridge drive coupled with either a 40, 80 or 120Mb fixed hard drive. With DATA♦PAK you now have POWER2 EXPAND!® 45mb at a time.



DATA♦PAKhd

All the convenience of a floppy, all the performance of a hard drive. Buy a DATA♦PAK now at your favorite Apple dealer!



MASSMICRO® s y s t e m s

550 Del Rey Ave ♦ Sunnyvale ♦ California ♦ 94086 ♦ 408-522-1200 ♦ 800-522-7979

DATA♦PAK, DATA♦PAKduet, DATA♦PAKhd, POWER2 EXPAND! and MASSMICRO Systems are trademarks of MASSMICRO Systems, Inc.

EXCLUSIVE!



PAD♦LOK
Password and
Partitioning
Software!

Snap! upgraded to Version 3.0

2-D CAD program gets custom menus

BY WILL McCLATCHY

SUNSET, S.C. — Forthought Inc., developer of Snap!, has given itself a new name and its two-dimensional CAD package a major upgrade.

The company, formerly called Data Basics Inc., changed its name to Forthought Inc. after discovering an MS-DOS software company with a similar name.

David Scheer, president of Forthought, said that Version 3.0 of the \$695 product will significantly streamline the design process.

"We are the first CAD system to let users define and build their own on-screen menus," said Scheer. But-

ton icons, made out of any object that can be drawn in Snap!, can be grouped and saved in a menu file. When the file is selected, the buttons appear on screen in a movable, sizable window.

The feature makes it possible to set up graphical menus for symbol libraries, with buttons for each symbol displayed when the library is selected. Such palettes offer quick mouse access to frequently used symbols, Scheer said.

Another key feature is the ability to create lasting connections between overlaid drawings. Plumbing and electrical specialists, for example, can work separately on different layouts and then incorporate them into a single drawing for review by a chief architect. Each time the last drawing is requested it calls up the latest updates of component drawings. As many as five files

can be used as overlays.

The new version provides quicker access to the most recent drawing by storing it in memory. "Instead of waiting for redraws, you have instantaneous updates," said Scheer, who added that the Virtual Window feature brings a 20 percent productivity improvement for users working on multiple drawings simultaneously.

Other improvements include PICT file input; Encapsulated PostScript output; cross hatching, which makes it possible for high-precision plotters to quickly fill in open areas; and the extraction of data from drawings into a standard tab-delimited file. According to Scheer, this last feature allows external programs such as Microsoft Excel to produce a bill of materials or other reports based on the drawing.

Forthought Inc. is at P.O. Box 32, Sunset, S.C. 29685; (803) 878-7484. □

BUSINESS

Continued from Page 1

zine, the expo is designed to give corporate users and government agencies a chance to review and evaluate Mac business solutions.

Apple has thrown its support behind the event. The new Macintosh IIx will be prominently displayed in its booth and Apple USA President Allan Loren is scheduled to present the keynote address.

Major Macintosh developers have also shown their enthusiasm for the expo.

Digital Communications Associates, a leading micro-to-mainframe connectivity developer, will unveil a new product that promises improved integration between Macs and IBM mainframes. Aldus Corp., Claris Corp., Quark Inc., ACIUS Inc., Aba Software and Compu-graphic Corp. also are on the list of the more than 120 exhibitors.

Cambridge Marketing predicts that 10,000 to 12,000 people will visit the show and attend at least some of the more than 75 conference sessions, seminars and hands-on workshops planned.

The sessions will focus on 11 ver-

tical business markets, including accounting, engineering, state and local government, law, architecture, and music and entertainment. The expo also will host the first meeting of The Apple Professional Exchange (APX), a nationwide Apple-supported corporate users group. Formerly the National Apple Professional Information Exchange, APX was founded this summer to provide a forum for Mac managers and users in corporate settings.

"We want to attract users in business, government and educational institutions," said Jeff Chasick, an instructor and microcomputer consultant at Jet Propulsion Laboratory, an independent research facility in Pasadena, Calif.

The group has about 100 paid members, but several users groups are changing their charters to become members, according to APX board member Dash Chang. In addition, the group is hoping Apple will encourage its corporate accounts to join, said Chang, who is chairman of Chang Labs of San Jose, Calif.

Apple will provide breakfast and a presentation of its Knowledge Navigator video at the APX event.

APX President Mike Bailey will then lead a panel discussion, titled

"Where the Hell is the Corporate Data Base?" Participants will include Guy Kawasaki of ACIUS, Steve Cronin of Blyth Software and Randy Wigginton of Ashton-Tate.

The half-day event also will include an advanced graphics and animation presentation by Mac "N" Stein, a member company from Hollywood, and a discussion of the technology involved with other artists and developers from the Los Angeles area.

The database round table and graphics presentation are examples of the events that APX local chapters can sponsor, Chang said.

"APX is meant to bring together professional users to pool their areas of expertise," Chasick said. "That pool is a huge library of information. For instance, we have a bulletin board on MacNET where people get on with all kinds of networking or front-end questions. I haven't seen a question posted that wasn't answered very specifically."

The Apple Professional Exchange is located at 1142 Stonylake Court, Sunnyvale, Calif. 94086; (408) 745-0665. □

Cliff Lehman contributed to this story.

SQL

Continued from Page 1

database software. The DB Library, a programming language interface, is designed to be embedded in Macintosh applications, allowing them to retrieve data in the background from host servers equipped with the Sybase SQL server software.

Rich Scheffer, Sybase director of marketing, termed Hoffman's disclosures "a statement of direction" and declined to comment on product availability, licensing or pricing.

Although relatively new to the microcomputer and workstation marketplace, Sybase has forged a good reputation with its distributed on-line transaction processing system, especially among DEC VAX customers, said Richard Edwards, an analyst with Robertson, Colman & Stephens of San Francisco.

Last month NeXT Inc. announced that the Sybase Server will be bundled with its machine. Earlier this year Sybase allied with Microsoft and Ashton-Tate to create dBASE-compatible software that works with Sybase SQL servers on IBM PC LANs.

"Sybase is in a great position to leverage a single database that's consistent across a heterogeneous network," Edwards said.

Apple has also said that it is a firm believer in Sybase and SQL; in addition to buying Network Innovations, the Cupertino, Calif., company that developed the SQL database access language CL/1, Apple last year invested in Sybase and now reportedly holds an 8 percent stake.

According to Ed Forman, Network Innovations' director of marketing, "Apple is also putting a strong emphasis on its developers to use CL/1 for host database access." Forman would not comment on

whether CL/1 connectivity will be included in the Sybase offering.

Yet CL/1 access seems like a probable option for Sybase, given that CL/1 makes it possible for a developer to use SQL consistently across a broad range of databases and host systems. Belmont, Calif.-based Oracle and Network Innovations have an alliance to develop a facility in Oracle for the Macintosh to process CL/1 language requests from other Mac applications.

SQL vendors such as Sybase, Oracle and Network Innovations are tapping into an emerging industry standard that affects corporate users who have on-line transaction-based database-management needs. IBM's Systems Application Architecture (SAA) has an inherent capability to access SQL databases.

Sybase's HyperCard front end will come on the heels of Oracle's Mac version, which the company expects to ship at the end of the month. It features a local database and a client/server architecture similar to Sybase's.

Hoffman said that Sybase will enter the Macintosh market using the same strategy it has used for the fledgling OS/2 platform — by finding partners. He declined, however, to disclose which companies will offer its products initially.

Ashton-Tate, however, is expected to provide DB Library support for its Full Impact spreadsheet. "We have shown an interconnection between Full Impact and an SQL database with CL/1. Strategically, we want to connect to key external resources," said Barry Smith, director of marketing for Ashton-Tate's Mac division. According to sources, the company is also developing an SQL-based client/server dBASE IV application for the Macintosh with dBASE language compatibility. □

Jon Swartz contributed to this story.

SYSTEM

Continued from Page 1

gist at Apple, said the 6.0.3 update, which could be frozen as early as this week, is intended for "users of future hardware releases" and will be licensed to "all third-party developers releasing software and/or hardware products supporting Apple's 32-bit color QuickDraw."

According to the message, which was sent to Mac developers last Wednesday, Version 6.0.3 contains a "hook placed in the system that in the future will be utilized by color QuickDraw."

The latest system news lent credence to rumors that 32-bit QuickDraw will be released long before System 7.0 becomes a reality.

"As a rule, the installed base does not need to upgrade to 6.0.3," the memo said. But users of advanced 32-bit color boards, such as the NuVista board recently shipped by Truevision of Indianapolis, may now be able to take full advantage of the capabilities of their boards by using System 6.0.3 and an early version of Apple's 32-bit color QuickDraw software, without waiting for the reportedly distant System 7.0 release. Truevision officials

could not be reached for comment.

An updated version of the Apple File Exchange program, improvements to the System's time manager routines and a patch correcting an unspecified problem in the SuperDrive driver also will be included in the final release of System 6.0.3.

Many developers who received the Apple memo and the alpha update were surprised and confused. "That is one bizarre piece of literature," said one prominent Mac developer, referring to the memo. "It looks like a Dukakis press release. Whatever hardware they're talking about, we haven't got it."

"I might question their security policy [for] sending a message about future hardware to so many developers," said Don Brown, vice president of CE Software of West Des Moines, Iowa.

The system software saga began in June when Apple unleashed System Software Update Version 6.0. The release, however, was so full of bugs that Apple followed it with Version 6.0.1 in September. But before 6.0.1 made it out the door, a text spacing bug forced Apple programmers back to the drawing board to produce a second "rock-solid" update, Version 6.0.2. — By Jonathan Perrow

DCA

Continued from Page 1

DCA, together with Apple, will announce MacIRMA TLP (Transport Layer Protocol Module) at this week's corporate-minded Macintosh Business Conference and Exposition in Anaheim, Calif.

According to sources, the new software will let users of DCA's MacIRMA boards for the Macintosh SE and II seamlessly integrate host applications with MacWorkstation. MacIRMA is a hardware and software package that provides IBM 3278 or 3279 terminal emulation for Mac-to-IBM-mainframe connectivity.

Apple has signed a letter of intent to distribute the new MacIRMA TLP in early 1989. It will be included in future versions of Mac-

Workstation, sources said. MacWorkstation costs \$2,500 for a user site license and \$5,000 for third-party developers.

MacWorkstation 3.0, an Apple software program aimed at corporate MIS departments and commercial developers, lets a Mac run as a front end to host-mainframe applications while maintaining a Mac-style graphical interface. The program resides on the Mac and can work with any host computer, including those from IBM and DEC.

Already in use at several large corporate sites, such as Citibank in Los Angeles, MacWorkstation supports six modules, including AppleTalk, IBM's 3270 terminal, RS-232 and TCP/IP (Transmission Control Protocol/Internet Protocol).

"It sounds as if this would give host sites a great graphical interface

for their applications," said an MIS director of a New York-based Fortune 1,000 company. "You don't need to know the intricacies of 3270 to run your applications with a seamless interface."

In August, Avatar Technologies Inc., the Hopkinton, Mass., competitor of DCA, announced MacMainFrame Programmer's Toolkit, a set of software tools for Mac programmers in 3270 environments. The toolkit supports MacWorkstation, C or Pascal languages, and HyperCard.

The Avatar toolkit is scheduled for fourth-quarter release as an option to Avatar's MacMainFrame series or as an independent software package, according to Avatar.

Digital Communications Associates is located at 1000 Alderman Drive, Alpharetta, Ga. 30201; (404) 442-4000. □

EDUCOM

Continued from Page 1

Macs affordable while raising the entry level of technology in those machines. "In a matter of months the Mac IIx will be at the low end of the platform," said Boesenberg.

According to previously reported internal Apple documents, the company plans several new CPUs over the next year (see MacWEEK, Sept. 13).

"We have told educational developers to assume [that Apple will deliver] multimedia capabilities, good sound and external video animation in future machines at an affordable price," said Bud Colligan, Apple's higher-education manager.

Attendees were impressed by the bang for the buck NeXT's \$6,500 computer promises, but many were unsure whether it would compete against the Mac II or against UNIX workstations.

"I would say NeXT would sell to people who right now are buying Sun [workstations from Sun Microsystems Inc. of Mountain View, Calif.] because the price is half as much and the performance is comparable," said Gerald Knezek, assistant professor of computer education at the University of North Texas in Denton, Texas. Mac II owners with a desire for more power and a larger budget might trade up to the machine, he added.

But while the obvious battle is being played out in the hardware market, NeXT and Apple also sparred in the software arena, competing for the support of educational software developers. According to Jeff Bork, marketing manager for NeXT, the company will offer fellowships to educators to encourage software development.

NeXT representatives also touted the NextStep development environment as easy to program, an especially important concern for faculty members who are not professional programmers and must divide their time between software development and other academic responsibilities. Among this year's recipients of software prizes awarded by Educom and the National Center for Research to Improve Post-secondary Teaching and Learning (NCRITAP), those who wrote Mac software said the development time for their programs took from three to five years.

During a seminar titled "Emerging Software Environments," Guy "Bud" Tribble, manager of software engineering at NeXT, and Martin Haerberli, senior technology adviser for higher education at Apple, debated the merits of MacAPP, Apple's own object-oriented development environment, and NextStep.

"NextStep embraces object-oriented programming as the primary method of development," said Tribble. In addition, its graphical nature allows the manipulation of objects to be "made without programming, but by dragging them around the screen with a mouse." Tribble criticized the complexity of programming with the Mac Toolbox, saying that "to have a very large array of subroutines was not the way to do it."

Apple officials responded to calls for object-oriented tools by pointing to MacAPP. "We at Apple have created a world where the work you do can build on the work of others," said Haerberli. Tens of thousands of HyperCard programmers, he said, have used that program to quickly develop useful packages.

But upstairs in NeXT's hospitality suite, viewers didn't need to see specialized applications to be sold on the machine. "I'm going to buy 16 of them," said one educator from the University of Iowa.

In the face of this prevailing enthusiasm for NeXT, Boesenberg reiterated that Apple does not plan to concede its share of the higher-education market or cut back on marketing efforts to educators.

"Our message to the sales force was that

95 percent of their time should be spent with their faculty," he said.

But the sales force was feeling the heat after this first confrontation with NeXT on what has been Apple's turf since 1984, and some have displayed the need for reassurance about Apple's future. At one meeting, according to a sales representative, Colligan was asked to give a yes or no answer as to whether Apple plans to release a computer that will restore the company's technical lead.

"Colligan said 'yes,'" according to the source.

In the interim, one sales representative was overheard counseling another to "remain positive and professional." □

JUDGE

Continued from Page 1

San Francisco federal Judge William Schwarzer. According to a law clerk in the San Jose District Court, the judges in San Francisco have about 100 to 180 fewer cases than those in San Jose. The clerk added that roughly 10 cases were removed from Aguilar's calendar.

Aguilar will continue to preside over the HP vs. Bausch & Lomb case, although the latter company also filed a request to have him removed because of conflict of interest.

Aguilar had no comment on the reassignment. Although the Apple suit is now on a

much less crowded court docket, it is still unclear whether this latest move will result in a speedier trial. A public status conference between the litigants and the new judge is set for Nov. 10.

"Until then, we're proceeding with all the dates intact," said Apple spokeswoman Carleen LeVasseur.

The court date set by Aguilar for the first trial, which will decide the validity of Microsoft's license for elements of the Mac interface, is Aug. 14, 1989.

No trial date has been set for the more fundamental debate on the subject of software copyright protection since its coming to trial is contingent on the license trial's outcome. □



Datacopy Grayscale Scanners: Now you can put gallery quality photographs in all your publications.

The best imaging in a desktop scanner comes from Datacopy. Now you can merge finely detailed photographs and other artwork directly into your desktop publications.

HIGH RESOLUTION

Datacopy's complete range of scanners delivers the ultimate in high-resolution imaging.

With advanced grayscaling capabilities and 300 or 400 dot-per-inch quality graphics, Datacopy Scanners clearly outperform all other products in their price class.

VERSATILE SOFTWARE

Datacopy software brings all the capabilities of a professional graphics house to your desktop. With MacImage™ you can take



any scanned image and modify it with an extensive selection of electronic darkroom functions.

Then you can merge images with text using your current desktop publishing package. What's more, Datacopy MacOCR™ lets you automatically scan the most popular types of hard copy information into your computer in

seconds... and it will format the text for your favorite word processing and desktop publishing programs. Quickly and easily.

QUICK INFORMATION

Call us today. We'll furnish you with information on our complete line of scanners and software. And where to find the nearest Datacopy reseller. (800) 821-2898



DATACOPY
A Xerox Company

Xerox debuts low-cost scanner

64-gray scanner
priced at \$2,000

BY CONNIE GUGLIELMO

MOUNTAIN VIEW, Calif. — Xerox Corp.'s newest subsidiary hopes to lure customers away from Apple and other low-cost scanner manufacturers with its first product, a flatbed, 64-gray-level scanner priced at less than \$2,000.

The new 730GS scanner supports six-bit or 64-gray-level scans of letter-size documents. Images can be scanned at resolutions ranging from 60 to 450 dpi.

The \$1,995 scanner was introduced last week by Xerox Imaging Systems Inc. (XIS), a Mountain View, Calif., company formed in October as a result of the merger earlier this year of Datacopy Corp. of Mountain View and Kurzweil Computer Products of Cambridge, Mass.

"We think we've set a new price/performance standard for the industry," said Michael Rehms, director of product marketing for XIS. "We're offering a 64-gray-level scanner at a price that most com-

panies are charging for only four-bit (16-gray-level) capabilities."

While the XIS offering boasts more capabilities than the new four-bit scanners released by Apple, Hewlett-Packard and Abaton Technology Corp., the company will face competition from Microtek and New Image Technology (see MacWEEK, Oct. 11).

New Image of Lanham, Md., is offering its new MacScan Pro Sheetfed System at an introductory price of \$1,599. The gray-scale system scans images with up to 256 grays at resolutions of up to 300 dpi.

The MSF-300Q flatbed scanner from Microtek of Gardena, Calif., also scans 300-dpi images with up to 64 gray levels. At \$2,295, the Microtek model is slightly more expensive than the new XIS unit, but it can handle legal-size documents.

In addition to 64-gray-level scans, the XIS scanner offers an optional 16-gray-level scan for users who want to store less image data and keep file sizes small.

Rehms said the 730GS also contains six hardware-based internal halftone patterns that can be applied to images while they are being scanned. Hardware-based image-

enhancement features allow users to sharpen or soften contrast, clean up lines and edges, and lighten or darken tones.

The scanner ships with Datacopy's MacImage software, a combination scanner driver and image-enhancement program. MacImage contains controls for adjusting screen angles and contrast and brightness, as well as for cropping and scaling images. It also lets users see up to eight views of a scanned image at once.

Xerox Imaging Systems Inc. is located at 1215 Terra Bella Ave., Mountain View, Calif. 94043; (415) 965-7900. □

Mac CAD highlights Autofact '88

BY WILL McCLATCHY

CHICAGO — Mac Bravo, a powerful new CAD package that may pave the Mac's way into mechanical engineering shops of heavy industry, will highlight this week's Autofact '88 factory-automation exposition here.

The product is a Mac II version of Schlumberger Technologies' BravoDRAFT, the flagship drafting package in the Ann Arbor, Mich., company's Bravo3 family of CAD/CAM packages for workstations and minicomputers.

Apple CEO John Sculley will lead his company's contingent at the show, which is sponsored by the Society of Manufacturing Engineers. His keynote address is expected to underline Apple's commitment to manufacturing, engineering and factory control, an area where it has so far made relatively little headway.

Digital Equipment Corp. CEO Ken Olsen will also be present to discuss methods of integrating the Mac with DEC minicomputers, which hold a dominant position in manufacturing environments.

On the show floor, Apple will have a large booth with numerous Mac-based CAD/CAM packages on display. Among them will be products from a group of companies that have agreed to provide direct translation of files to the formats of products of other group members. The companies include Versacad Inc. of Huntington Beach, Calif.; MacNeal-Schwendler Corp. of Los Angeles; Gibbs and Associates of Chatsworth, Calif.; and Visual Information Inc. of La Puente, Calif.

Besides the new Mac product and BravoDRAFT, Schlumberger's Bravo3 family also includes Bravo3 Solids Modeling for rendering drafts into 3-D models, GRAFEM for finite-element analysis of objects under stress and PCB Layout for designing printed circuit boards.

Among Mac Bravo's features will be a patented way to type simple keyboard commands over graphical objects in place of complex mouse actions. □

MacInTouch

BY RIC FORD AND RICK LEPAGE

Bugs & Tips

SuperMac/Radius conflict. People with Radius' 25-MHz accelerator card should beware of using the product with SuperMac Technology's XP series of hard drives. People we spoke to at SuperMac said that the speedy card brought out a "latent bug" in the XP driver software. The company is working on a fix that should be available on SuperMac's bulletin board by the end of this week and from dealers soon.

SUM updates. Symantec recently released an update of SUM that fixes problems with the Shield and HDPARTITION INITs. Some users reported crashes during startup with certain machine configurations. Version 1.02 of each INIT is available from the Living Videotext group on CompuServe, other on-line services and Symantec.

One bug that has not been fixed in the new version of SUM comes up when you use Disk Clinic to back up a Guardian Volume Save file to a floppy disk that does not have enough space on it for the file. Instead of giving you a message that there is insufficient room for the file, Disk Clinic performs the operation and returns a "Backup Complete" message even though the entire file was not copied correctly. If something goes wrong with your hard disk, you will be unable to use the Guardian file backup to restore it.

Another problem with SUM occurs with Affinity Microsystems' Tempo II macro utility. If you have Tempo II active and try to transfer to another application via Disk Clinic's File menu, your Mac will bomb.

PageMaker 3.0. A reader called to report an incompatibility between Aldus PageMaker Version 3.01 and AppleShare 2.0. PageMaker will run off an AppleShare server well but will lose its multi-launch capabilities. We have been unable to get a commitment from Aldus on when a fix for this problem might be made available.



More on Microsoft Mail.

The Microsoft Mail story never seems to end. We reported that Microsoft developed a compression utility to help keep the mail data file from becoming too large, but a number of people have called us to say that people they have talked to at Microsoft tech support disavow any knowledge of the application. We have seen a Microsoft-labeled disk with the application on it, so we know it exists, but you might have to apply a bit more pressure than usual to get a copy from the company.

Some users have called us about a problem they've had with Version 2.0 of AppleShare and Microsoft Mail in which the mail server would crash and sometimes take the rest of the server down with it. Microsoft has a patch for this problem that comes on the disk with the compression utility.

On another Microsoft note, the company has fixed the problem we reported with Automac III and versions of Excel before 1.5. The fix can be found in Version 1.2 of Automac, which you will again have to get through Microsoft's product support group. Good luck.

Reference

Microsoft Corp., 16011 N.E. 36th Way, Redmond, Wash. 98073-9717; (206) 882-8080, product support: (206) 882-8089.

SuperMac Technology, 950 N. Rengstorff Ave., Mountain View, Calif. 94043; (415) 962-2900, BBS: (415) 962-1618.

Symantec Corp., Turner Hall Publishing division, 10201 Torre Ave., Cupertino, Calif. 95014; (408) 253-9607. □

We welcome your comments and questions on MacInTouch at MacWEEK, One Kendall Square, Suite 326, Cambridge, Mass. 02139; (617) 577-1033. Electronic mail: MCI Mail: RICFORD, RLEPAGE, MACWEEK-BOSTON; CIS: 75056,1225 (Ric Ford), 75016,350 (Rick LePage); Delphi/PAN: MACWEEKBOS; AppleLink (address to the attention of "MacInTouch" in Subject): X0702; MacNET: RICFORD, RICKLEPAGE; Internet: RICFORD@CUPPORTAL.COM; GENIE: MACWEEKBOS.

Stack Cleaner cleans up at Boston HyperExpo

BY CLAIR WHITMER

HUNTINGTON, Conn. — Softworks Inc. wants HyperCard developers to clean up their stacks, and developers seem to agree that the idea is a good one.

Stack Cleaner, the latest addition to the company's line of HyperCard development tools, was among the best-selling products at the recent HyperExpo in Boston, according to Softworks President John DiBiasi, who added that most buyers identified themselves as developers for corporate or university sites.

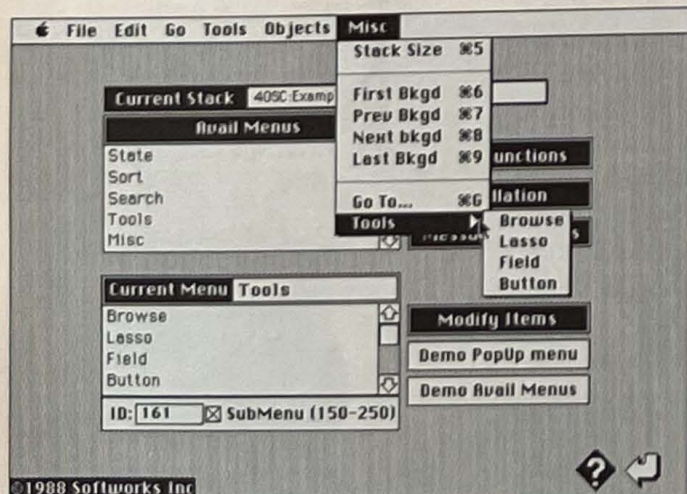
Stack Cleaner is named for one utility in the package that automatically substitutes in scripts the standard abbreviations for HyperTalk

commands, thus "cleaning" a stack's code and reducing its overall size.

The product also includes a Menu Maker utility that supports the creation of standard Macintosh menus within a stack, as pop-up menus, submenus or additions to the menu bar. Menus created with the utility can also be copied as resources from the stack into standard applications.

Other utilities allow developers to split stacks into multiple stacks as well as to duplicate and merge stacks. The Stack Cleaner is priced at \$49.95 and includes licensed copies of HyperCard and ResCopy.

Softworks can be reached at P.O. Box 2285, Huntington, Conn. 06484; (203) 926-1116. □



The Stack Cleaner tool allows standard Mac menus to be created for a HyperCard stack. They can also be imported into regular applications.

Get a FREE Subscription to

MacWEEK

Applicants who qualify will receive a complimentary subscription to MacWEEK. All questions must be answered, including those which request specific numbers, to be eligible for qualification. Incomplete forms cannot be processed. The publisher reserves the right to limit the number of free subscriptions. Remember: Sign and date this form before returning.

- Please start/continue my FREE subscription to MacWEEK.
☐ 01. Yes ☐ 02. No 8A44

1 Your company's primary business activity at this location (check one only):

- Computer Related**
☐ 01. VAR/VAD
☐ 02. Retailer/Distributor
☐ 03. Systems House/Data Processing
☐ 04. Manufacturer (Computers, Software, Peripherals)
☐ 05. Consultant
Non-Computer Related
☐ 10. Aerospace
☐ 11. Architecture, Engineering
☐ 12. Research & Development
☐ 13. Graphic Arts
☐ 14. Communications: Publishing, Advertising, Public Relations, Promotion
☐ 15. Government: Federal
☐ 16. Government: Non-Federal
☐ 17. Manufacturing
☐ 18. Education
☐ 19. Finance: Banking, Accounting, Insurance, Real Estate
☐ 20. Health, Medical, Legal
☐ 21. Retail, Wholesale, Distribution
☐ 22. Agriculture, Mining, Construction, Oil
☐ 23. Transportation, Utilities
☐ 97. Consultant: Non-Computer Related
☐ 99. Other Businesses & Services (please specify)

2 Your Professional Title (check one only):

- ☐ A. Chairman/President/Owner/Partner
☐ B. Vice-President/Director/General Manager
☐ C. Controller/Treasurer
☐ D. Micro Manager/Specialist/Coordinator
☐ E. Project Manager/Group Leader
☐ F. Art Director/Graphic Designer/Artist/Illustrator
☐ G. Manager/Supervisor (not listed above)
☐ H. Architect/Engineer
☐ I. Systems Analyst/Programmer
☐ J. Consultant/Advisor
☐ K. Scientist
☐ L. Educator
☐ M. Editor/Writer
☐ N. Professional (Doctor, Lawyer, etc.)
☐ O. Accountant
☐ P. Representative
☐ Z. Other (please specify)

3 Your department/function at this location (check one only):

- ☐ A. Engineering/Systems Engineering
☐ B. Research & Development
☐ C. Communications/Publishing/Public Relations
☐ D. Art/Creative Design
☐ E. MIS/DP/Information Systems
☐ F. Manufacturing/Operations/Production
☐ G. Sales/Marketing
☐ H. Administration/Management/Personnel
☐ I. Accounting/Finance
☐ J. Education/Training
☐ K. Science
☐ L. Consulting
☐ Z. Other (please specify)

4 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are (answer one only):

- ☐ A. Retailer: sold per year _____ (specify quantity)
☐ B. Reseller: resold per year _____ (specify quantity)
☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)

5 Indicate how many employees there are in your entire company (check one only):

- ☐ 01. 1000 or more ☐ 03. Under 100
☐ 02. 100-999

6 Please indicate the quantities of the computers currently owned and/or planned for purchase within 1 year at this location:

(Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
01. Macintosh II		
02. Macintosh SE		
03. Macintosh Plus		
04. Macintosh (Other)		
05. IBM/Compatible Micro		
06. Other Micro		
07. Workstation (e.g., Apollo, Sun)		
99. Other		

- Subscriptions cannot be delivered to a home address. Please AFFIX YOUR BUSINESS CARD below or provide full company name and address.

NAME	
TITLE	
COMPANY NAME	
DIVISION	TELEPHONE NUMBER
STREET ADDRESS	
CITY	STATE ZIP

7 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):

- ☐ 01. DEC ☐ 03. Other
☐ 02. IBM ☐ 09. None

8 How many Macintoshes do you personally help purchase, specify, recommend or approve the purchase of? (check one only)

- ☐ 01. 500+ ☐ 05. 10-19
☐ 02. 100-499 ☐ 06. 4-9
☐ 03. 50-99 ☐ 07. 1-3
☐ 04. 20-49 ☐ 09. None

9 Check all the Macintosh/Compatible products and services in which you are actively involved in purchasing, recommending, specifying or approving:

- Computers**
☐ 01. Micros (Personal)
☐ 02. Workstations
☐ 03. Minis, Mainframes
Connectivity
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communications Software
Peripheral Equipment
☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 25. Plotter, Charting Devices
☐ 26. Scanners
Add-in Boards
☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 42. MS DOS Boards
☐ 43. Ethernet Boards
Software
☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 58. Music
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities
☐ 99. None

10 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):

- ☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify) _____

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____
 Title _____ Dept. _____

Your Signature _____
 Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

was news.

NEWS

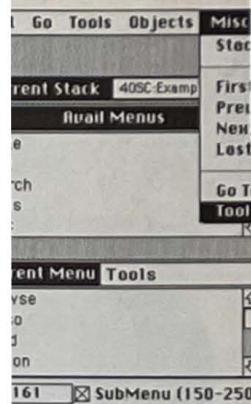
Box debut

scanner
at \$2,000

UGLIELMO
IN VIEW, Calif. —
s newest subsidiary
customers away from
er low-cost scanner
with its first product,
gray-level scanner
an \$2,000.
30GS scanner sup-
64-gray-level scans of
uments. Images can
resolutions ranging
dpi.
scanner was intro-
k by Xerox Imaging
(XIS), a Mountain
company formed in
result of the merger
of Datacopy Corp. of
v and Kurzweil Com-
of Cambridge, Mass.
we've set a new
nce standard for the
d Michael Rehmus,
oduct marketing for
fering a 64-gray-level
ice that most compa-

Cleaner oston Hyp

TMER
ON, Conn. — Soft-
its HyperCard devel-
up their stacks, and
m to agree that the
ne.
er, the latest addition
y's line of HyperCard
ools, was among the
oducts at the recent
Boston, according to
sident John DiBiasi,
t most buyers identi-
es as developers for
iversity sites.
er is named for one
ackage that automati-
s in scripts the stan-
tions for HyperTalk



FOLD HERE FOR MAILING

DO NOT STAPLE—TAPE HERE



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

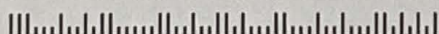
BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 1421 CHERRY HILL, NJ 08034

POSTAGE WILL BE PAID BY ADDRESSEE

MacWEEK

P.O. Box 5806
Cherry Hill, N.J. 08034-9641



FOLD HERE FOR MAILING

DO NOT STAPLE—TAPE HERE

R

Gibbs and Associates of Chatsworth, Calif.; and Visual Information Inc. of La Puente, Calif.

Besides the new Mac product and BravoDRAFT, Schlumberger's Bravo3 family also includes Bravo3 Solids Modeling for rendering drafts into 3-D models, GRAFEM for finite-element analysis of objects under stress and PCB Layout for designing printed circuit boards.

Among Mac Bravo's features will

Reference

Microsoft Corp., 16011 N.E. 36th Way, Redmond, Wash. 98073-9717; (206) 882-8080, product support: (206) 882-8089.
Supremac Technology, 950 N. Rengstorff Ave., Mountain View, Calif. 94043; (415) 962-2900, BBS: (415) 962-1618.
Symantec Corp., Turner Hall Publishing division, 10201 Torre Ave., Cupertino, Calif. 95014; (408) 253-9607, □

We welcome your comments and questions on MacInTouch at MacWEEK, One Kendall Square, Suite 326, Cambridge, Mass. 02139; (617) 577-1033. Electronic mail: MCI Mail: RIFORD, RLEPAGE, MACWEEK-

**Linotronic 200
to set tough
type standard**

ed Introduction

—MacWEEK 9/6/88

**Recently this
was news.**



**Now it's
history.**

INTRODUCING THE CG 9400-PS POSTSCRIPT® LASER IMAGESETTER FROM COMPUGRAPHIC.

Reading the news lately, you'd think there's still only one source for POSTSCRIPT laser image-setters, but that just isn't true anymore. Our new CG 9400-PS is about to set a few "tough standards" of its own.

The CG 9400-PS is the only laser imagesetter in its price class—under \$40,000—that offers 2400 dots-per-inch resolution. At about the same price, the new Linotype L-200 has a maximum resolution of only 1700 dpi.

Both machines feature the same Adobe raster image processor (RIP) for full compatibility with POSTSCRIPT files. But the new CG 9400-PS gives you more type options for outputting your Macintosh and PC-generated text and graphics.

SIXTY MORE TYPE FONTS AT NO EXTRA CHARGE.

No one would run a type shop with only 13 fonts, yet that's how many our competitor gives you with their machine. Our new laser imagesetter, however, comes with 73 Adobe fonts as standard equipment.

If you want, you can easily add more character sets. As your type library grows, you can store typefaces and graphics in the standard 80MB hard disk. That's the most standard memory available in a POSTSCRIPT laser imagesetter.

WORRY-FREE SERVICE AND SUPPORT.

With our optional maintenance agreement for the CG 9400-PS, you get unlimited telephone consultation, service and parts, plus regular software and hardware upgrades.

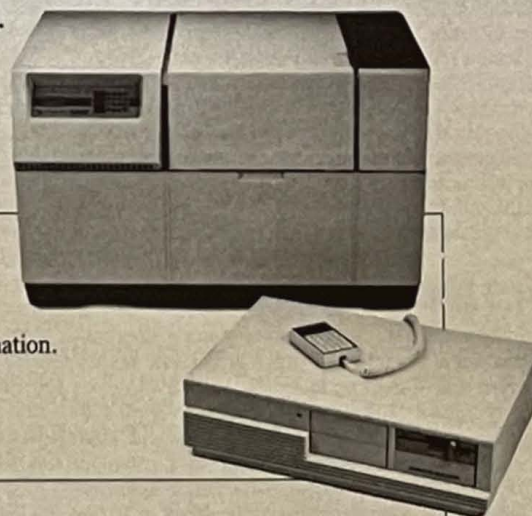
If you already have Compugraphic equipment, you know it seldom requires servicing. But if you do need service, you should also know that we have 400 service engineers ready to help you. (That's five times the number our closest competitor provides.)

If you ever have a problem, we guarantee that one of them will be in your shop within a single business day—in most major cities you'll see our service representative in four business hours, or less. Which is something our competition won't guarantee.

THE BOTTOM LINE.

If you run a commercial type house, the CG 9400-PS is an affordable way to give your customers the high-quality POSTSCRIPT output they want. Or, if your operation is in-house, the CG 9400-PS can be part of an affordable, professional publishing system.

To find out more, send in the coupon below or call Compugraphic toll-free today at 1-800-551-6245 (in MA, 1-800-262-5226) extension 600.



Mail to: Compugraphic Corporation, MS 200-4-5H,
200 Ballardvale Street Wilmington, MA 01887.

- ☐ I'd like to know more. Please send me additional information.
☐ Please have a representative contact me.

Name _____
Title/Company _____
Address _____
City/State/Zip _____
Phone _____

Corporate DTP hits speed bump

Managers struggle with new roles

BY KAREN SORESENSEN

SAN FRANCISCO — Desktop publishing — Apple's Trojan horse for the business market — has successfully carried out its mission. Thousands of corporate Macintosh users are now the proud producers of their own documents. But while companies strive to reduce their publishing costs with personal computers, they are also confronting three major problems for which they didn't bargain: stacks of unattractive documents, decreased worker productivity, and inadequate tracking and retrieval systems.

Boeing Commercial Airplane Co. of Seattle was an early adopter of desktop publishing and is now dealing with the issue of poorly designed documents. Publishing at Boeing, like at many other companies, is no longer limited to a separate department of trained professionals but is performed by many different employees, secretaries and engineers alike. But without the supervision of a trained eye, many desktop-produced pages are less than attractive.

"It's been a bit chaotic," said Larry Martinez, desktop publishing product manager for Boeing's Computer Services division. "Desktop publishers get carried away with their tools. They use too many different fonts on a page and spend more time on the aesthetics of a document than the content of it."

As a result of the confusion, a special committee made up of artists and various department directors is now working to establish companywide font standards. The committee, formed in June, has begun to make specific font recommendations for documents in five different categories: marketing and communications (glossy color sales brochures and marketing materials), electronic publishing (black-and-white technical papers and proposals), office information systems (interoffice memos

and letters), mainframe-based printing (certain technical reports generated from data stored on mainframe computers) and CAD/CAM (documents and illustrations generated with plotters). If the font standards prove successful, then the committee may develop document stylesheets and a graphics library.

"We provide recommended layouts and electronic templates," said Arthur Lindgren, a member of the font committee and Boeing's computer-aided graphics manager for commercial sales. "If your work doesn't fit these templates, then you're strongly urged to seek professional help from one of the company's full-time graphics departments."

Martinez also has begun to develop guidelines to help users

with desktop equipment. "We did a number of tests and evaluations and began to get pretty concerned about it," said Jerry Meixsell, supervisor of publishing systems for the marketing support department. "We have to train our writers to use word processing, spell checking and communications software, and because they are technically oriented people, we usually have to train them how to write as well. When they were asked on top of that to do composition and layout — skills they don't typically have — we found their productivity dropped considerably."

The writers have since gone back to the Atex system. Meixsell now delegates desktop publishing to specific areas, such as the department's training group, where a greater portion of work involves graphics and document production.

Once companies solve the aesthetic and productivity problems, they find themselves grappling with the issue of storage and traceability of documents for future use. "What I really need are tools to keep track of revision cycles," Boeing's Martinez said, adding that he would like to see software able to provide more advanced file protection and to automatically keep track of document version numbers and editors.

At Aerojet Solid Propulsion Co. in Sacramento, Calif., the Proposal Development Center uses a cluster of VAX computers for backing up and storing documents created on its network of 70 Macs. Communication between the two systems is handled by PacerLink from Pacer Software Inc. of La Jolla, Calif., but documents still have to be manually numbered and logged, and the file-protection system is simply one of trust, said Leah Biagioni, the center's manager. "The rule is that nobody takes anything out of a folder unless they check with the owner of the folder first," said Biagioni. Like Boeing's Martinez, Biagioni said she hopes better document-tracking software will emerge in the future.

Even with its flaws, of course, the Trojan horse seems to have taken up permanent residence. Desktop publishing is accomplishing what its early proponents promised — giving people more control over their publishing output. "With the Mac," said Biagioni in a by-now familiar refrain, "we've put out 300-page proposals in a week. Before, it would have taken at least three weeks and we wouldn't have made the bid."

But, as corporate Mac users have learned, bringing in desktop publishing is not without its pitfalls — like aesthetics, productivity and retrieval — that are better planned for ahead of time than tackled on an ad hoc basis. □



decide if they have the expertise to publish a specific type of document and, if so, how much they will have to spend and what it will take to manage the process. He said he hopes to eventually distribute the guidelines in the form of a HyperCard stack that would operate like an expert system.

Worker productivity is another problem area for many companies that adopt desktop publishing. Documentation writers at Caterpillar Inc., the ground-moving equipment manufacturer in East Peoria, Ill., experienced lower productivity when the company experimentally replaced the department's dedicated Atex publishing system

StackWEEK

BY ERIC ALDERMAN AND STEVE MICHEL

■ Tips

Many people have noticed that HyperCard's background buttons and fields can sometimes be a challenge. Background buttons maintain the same hilite through all the cards that share the background, while fields are just the opposite: Their contents are different for each card using the background.

In the case of buttons, you'll find many situations where you want to have a background button that has a different hilite condition for each card. For example, a stack might include a check-box-style button on the background to indicate whether a person is, say, a donor to your organization. However, when you click on (highlight) the "Donor" button for one card, it remains highlighted for all cards in the background. So the question is, how do you make the hilite of the check-box button unique for each card?

One solution is to create a matching background field that is used to store the state of the hilite property for the button on each card. For simplicity's sake, give the field the same name as the button. You can then use the **hide bgnd field "Donor"** command to hide this field so that it doesn't interfere with the aesthetics of your stack. To implement this technique for one or two check-box buttons, only a couple of short handlers (the first two are shown in the script listing) are necessary.

The mouseUp handler is placed into the background check-box button. When you click on the button, the handler simply stores the new hilite setting into a background field that has the same name as the button. (Be sure the check-box button has its "autohilite" property turned on. That way, you'll get the proper checking and unchecking action.)

Next, you need a way to reset the hilite of the check box when you open a card. You can do this with an openCard handler in the background script, as shown in the listing. When you open a card, this handler simply sets the hilite property of the background button on that card to the value stored in the background field on that card.

To avoid seeing the scripts perform their work each time you open a card, you might want to place HyperCard 1.2's **lock screen** command in the handler that is used to open cards (for example, in your Next and Previous arrow buttons). So, your Next arrow button's script might read **lock screen**, then **go next card**, and finally, **unlock screen with visual effect wipe left**. This way, the openCard handler will be performed while the screen is locked. After the visual effect occurs, the button will be set correctly. (You can achieve a similar effect with earlier versions of HyperCard by setting the lockScreen global property. You just won't get the visual effect.)

With fields, the situation is just the opposite. Sometimes you want to have text in the background that is the same on every card, such as when you want to add titles to your fields (like "Name:" and "Phone:"). While you can use paint text for this, a more flexible method is to use a named background button. Set the name of the button to the text you want for the title of the field and make sure the "show name" property of the button is set to true. Then position the button appropriately, near the field. Usually transparent buttons are best for this, and if you don't

```
on mouseUp
  put the hilite of me into bg field the short name of me
end mouseUp

on openCard
  set the hilite of bg button "Donor" to bg field "Donor"
end openCard
```

These handlers allow you to create background check-box buttons with different values from card to card.

put any handlers into the button's script, nothing should happen when it is clicked. Remember also that you can use the **set the textFont** and **set the textSize** statements from the message box to change the look of the button's text.

A nice addition to HyperCard would be a property for both buttons and fields that would specify whether their "values" (hilites in the case of buttons) should be the same or different for all cards in the background. This would make both solutions described above unnecessary.

Next week, we'll look at a more complex script for handling multiple check boxes in the background. We'll also discuss a similar method for dealing with radio buttons. — S.M. and E.A. □

If you have any questions, comments, tips or other HyperCard-related information you'd like to share, write to us at StackWEEK, c/o MacWEEK, 525 Brannan St., San Francisco, Calif. 94107. Electronic mail: MCIMail: STACKWEEK; AppleLink: D1507 (Steve) or D1577 (Eric).

New Image ships sheet-fed scanners

LANHAM, Md. — Bargain-hunting Mac users on the lookout for a low-cost scanner can take their pick of two sheet-fed Canon IX-12 systems from New Image Technology Inc.

For a limited time, the Lanham, Md., company is offering its MacScan Sheetfed Scanning System for \$999. Regularly \$1,547, MacScan scans line-art and halftone images in 15 seconds at 75, 150, 200 or 300 dpi.

The company also announced a \$1,599 introductory price on its new MacScan Pro Sheetfed System. The

gray-scale system scans images with up to 256 grays at variable resolutions up to 300 dpi.

Both scanners are shipped with SCSI interface, cabling, and MacScan software, featuring a complete tool palette for editing scanned images. Files can be saved in 11 formats, including TIFF (Tag Image File Format), EPS (Encapsulated PostScript format) and PICT.

New Image Technology is located at 9701 Philadelphia Court, Lanham, Md. 20706; (301) 731-2000. □

Just say ~~APPLE~~ CRATE



You've known us as AppleCrate. We are now Crate Technology. So, just say Crate!

We offer a great line of external disk drives now known as MacCrate ranging from 20MB to our performance driven 80MB model all using Seagate quality disk drives.

We have expanded our product line to include InnerCrate: our solution for your Mac SE and Mac II internal disk drive needs. InnerCrates range from 30MB to our high performance 300MB model.

Introducing TapeCrate, our high speed quality backup system. TapeCrate's high speed data transfer rate, protects 60MB of your valuable information in just 12 minutes. TapeCrate comes with a 60MB data cartridge and is ready for "Plug and Play" operation.

MacCrate

20MB	65ms	\$545
40MB	28ms	\$740
60MB	28ms	\$839
80MB	28ms	\$1149

InnerCrate

Mac SE 30MB	28ms	\$560
Mac SE 50MB	28ms	\$730
Mac II 40MB	28ms	\$585
Mac II 60MB	28ms	\$655
Mac II 80MB	28ms	\$1085
Mac II 300MB	16.5ms	\$2785

TapeCrate

60MB tape backup	\$739
------------------	-------

In California 800-323-9994 Nationwide 800-543-5808
Call for same day orders or technical support.

CRATE
TECHNOLOGY
6850 Vineland Ave. Bldg. M., North Hollywood, CA 91605

New package promises help for corporate trainers

BY CLIFF LEHMAN

NASHVILLE, Tenn. — Information services managers looking for ways to lighten the burden of in-house Mac training programs now can take advantage of a series of instructor-led teaching aids from Desktop Systems Consulting of Nashville, Tenn.

Macademics, originally developed by DSC

to train dealers for a chain of computer stores, costs \$999 for an unlimited-use license. The package includes an instructor's guide, a dozen student manuals, overhead transparency masters, a data disk and evaluation forms. Additional student manuals are available for \$25 each.

"The course work has been optimized for corporate trainers who don't have great exper-

tise with the Mac or a particular Mac application," said Prentice Mills, president of DSC. "Macademics is designed so they can pick up the package and train others without having to spend a great deal of time studying and using the application themselves."

Courses available include Introduction to Macintosh, Introduction to Microsoft Word, Advanced Microsoft Word, Using FileMaker Plus, MacPaint/MacDraw and Using Cricket Graph.

Courses on beginning and advanced PageMaker 3.0, Aldus FreeHand, Microsoft Excel, WordPerfect Mac, Quark XPress, Pixel Paint, Digital Darkroom and LaserPaint Color II are scheduled for release by the end of the year.

DSC also offers computer-based training (CBT) systems adapted from the original courseware for instructor-led training.

"CBT modules are good for corporate users with occasional training needs or people who find it inconvenient to take time out for instructor-led courses," Mills said. "CBT courses can be completed in about three hours in chunks of time convenient to users."

DSC's CBT modules cost \$69.95 each. Both the instructor-led materials and the CBT modules are available by mail.

Desktop Systems Consulting is located at 1307 Greenfield Ave., Nashville, Tenn. 37216; (615) 226-4581. □

At last, professional quality scanning... within everyone's reach!

VisionScan™
from
\$595.00



SHIPPED
IN 24 HOURS OR
SHIPPING IS FREE.

"If it were my money,
I'd buy the
Mirror VisionScan.
Its price/performance ratio is
unequaled."
BYTE Magazine Oct. '88

FREE DeskPaint™ Software.

The DeskPaint™ Software desk accessory inspires full graphic editing without deserting your desktop publishing program. It crops, sizes, details, lightens, darkens and embellishes plain art into professional presentations.

Scan and edit text like the pro's with an optional O.C.R. software program, only \$199⁰⁰.

With the revolutionary Read-it!™ software program by Olduvai Corporation, VisionScan enables your Macintosh™ to read whole pages of text, then store and manipulate them faster than ever before.

Why buy from Mirror?

- Buying direct saves money • Full 30 day "money back" guarantee
- Full 90-day warranty • An on-going commitment to innovation

To order VisionScan™ and your free DeskPaint™ software package, call toll free:

1-800-654-5294

Macintosh Business Conference
Booth #171

MIRROR
WIBBOB
You'll see more from Mirror

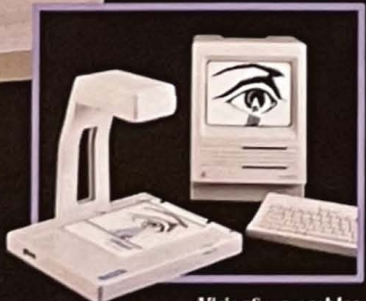
Mirror Technologies, Inc.
2644 Patton Road
Roseville, MN 55113

Affordable line art and halftones without sacrificing your printer.

VisionScan™ delivers quality scans in seconds without tying up your ImageWriter™ printer. Whether you're scanning photos, graphs, charts, or other original materials for newsletters, marketing reports, layouts or other applications, VisionScan™ produces affordable halftone images and extremely high quality line art.

Scan 3-D...and at no extra cost.

VisionScan can expand your view to 3-D. The roomy overhead scanner accepts objects up to one inch in height and gives you an added vantage point — a value many higher priced scanners can't begin to offer.



VisionScan is a trademark of Mirror Technologies, Inc.
Macintosh and ImageWriter are trademarks of Apple Computer Company.
DeskPaint is a trademark of Zedcor Incorporated.
Read-it! is a trademark of OLDUVAI Corporation.
Prices subject to change without notice.

QuickShare gets improved interface, new print options

BY JON SWARTZ

BOULDER, Colo. — QuickShare is getting quicker and sharing better, according to Compatible Systems Corp., the Boulder, Colo., company that developed the PC-to-Mac file-transfer and format-translation package.

QuickShare, a \$465 package consisting of an interface board for the PC and software for both the Macintosh and the PC, allows users to dedicate part of a PC hard disk as storage for the Mac, to transfer files at SCSI speeds and to translate almost any PC text or bit-mapped graphic file into MacWrite or MacPaint format.

The QuickShare 2.0 software upgrade announced last month provides new printing options, more flexible disk sharing and an improved user interface, according to Ann Beauprez, manager of marketing services for Compatible Systems.

The new version will let Macintosh users directly print PC PostScript and text files on a compatible Macintosh printer without having to import files into a Macintosh application first. Mac files can also be redirected to a PC printer port, serial port or auxiliary device, Beauprez said.

In addition, QuickShare now permits Mac users to store files on up to eight virtual disks on the PC's hard disk or on disks on PC networks such as IBM's Token Ring, Novell's NetWare or DCA's 10Net. The additional volumes appear as icons on the Mac desktop. A new drive selection window makes it easy to select the correct PC device for file transfers, Beauprez said.

QuickShare 2.0 is scheduled for release later this month. Current QuickShare users can upgrade to Version 2.0 for \$75.

Compatible Systems can be reached at P.O. Drawer 17220, Boulder, Colo. 80308; (303) 444-9532; (800) 356-0283. □

Julian bundles VideoWorks, NTSC

CONCORD, Calif. — Julian Systems Inc. is bundling its NTSC Converter with MacroMind's VideoWorks II animation program for \$799.

The \$599 converter links a Mac II equipped with either Apple's eight-bit video board or a video card from SuperMac Technology of Mountain View, Calif., to standard video sources, like VCRs.

Animated presentations created with VideoWorks II, the \$295 program from Chicago-based MacroMind, can then be output to video.

Julian Systems Inc. is at 2280 Bates Ave., Suite J, Concord, Calif. (415) 686-4400. □

Maple, Mathematica in a run for the numbers

Brooks/Cole ports math program to Mac

BY WILL McCLATCHY

PACIFIC GROVE, Calif. — Mathematica is getting its first upgrade, but it may soon face competition in the Mac mathematics market from a new version of Maple, an equation-solving program that currently runs on workstations and mainframes.

Widely used by mathematicians and math instructors, Maple will be available on the Mac next month with the help of Brooks/Cole Publishing Co., a math and science textbook publisher here.

Mathematica, a product of Wolfram Research Inc. of Champaign, Ill., has drawn attention since its release in June because of its symbolic-processing and color graphics capabilities. But "from a raw computer algebra point of view, Maple is a much more mature package than Mathematica," said Robert Evans, director of electronic publishing at Brooks/Cole.

Evans said that Maple is in use at more than 200 universities worldwide. "With equal hardware, my suspicion is that we can solve more sophisticated problems," he said.

Both Maple and Mathematica solve differential and other equations, a task that for many years was reserved for expensive mini-computers and mainframes.

Evans acknowledged that Maple's black-and-white two-dimensional graphing of equations is "not as snazzy" as the 3-D color displays of its competitor but said that enhanced graphics would be high among the features being considered for future releases. "Who knows where Maple will be a year from now?" he said.

The program is being developed at the University of Waterloo in Ontario. It will be functionally identical to Version 4.2 of Maple, the latest release for other platforms, Evans said.

Brooks/Cole expects to ship the Professional Package, which is comprised of three volumes of documentation and nine disks containing the computation engine and libraries of equation-solving routines, next month. It will cost \$395.

In early 1989 Brooks/Cole will also publish a student version of the program, with a calculus textbook and more compact documentation for novice Maple users. The package will be priced at less than \$100.

Site licenses and educational and volume discounts will be available for both Maple versions. Both will run on any Mac with 1 Mbyte or more of RAM. Mathematica, in contrast, requires a minimum of 2.5 Mbytes to function, and more for optimal performance.

Math teachers who use symbolic computation in their classrooms were encouraged by news of a Mac version of Maple. "If my students were able to easily access Maple on the Mac, I would prefer that to using it on the mainframe," said Phoebe Judson, assistant professor of mathematics at Trinity University in San Antonio, Texas.

She teaches undergraduate calculus with Maple on a mainframe, but the proposed purchase of more Macs could make a hardware switch possible. "The graphing is much more beautiful on the Mac," she said.

Judson said that she is not sufficiently familiar with Mathematica to compare it with Maple, but that she is satisfied with Maple.

"As far as teaching undergraduates, we have enough symbol manipulation power with Maple 4.2," she said.

Wolfram Research is meanwhile nearing completion of Mathematica Version 1.1, adding enough enhancements to fill a 10-page list.

The new release, which will be sent free to owners of the original version, will include enhancements to the program's computational engine to allow it to solve equations containing new classes of integrals, according to a Wolfram representative.

"We enhanced the front end to be more flexible," he said. "We also increased the on-

line help. Now it is even easier to use."

The new version will also feature Clipboard conversion of QuickDraw to embedded PostScript in PICT files, which will enable Mathematica's runtime "notebooks" to run on NeXT Inc.'s workstations. The new version will also incorporate "coordinate digitization," displaying mouse coordinates on-screen and allowing users to input locations numerically.

Another enhancement is the inclusion of function templates, which automatically

fill in sample arguments for all mathematical equations.

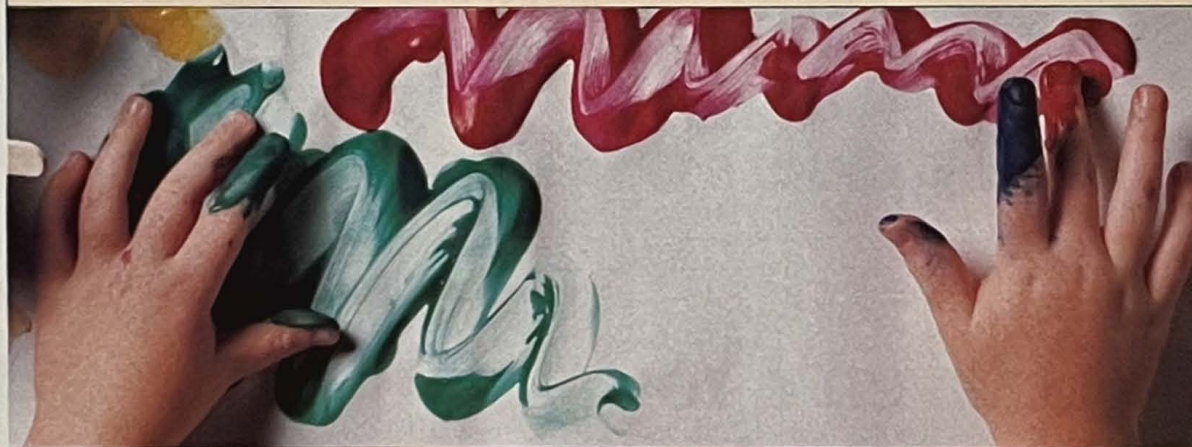
The upgrade is due to ship this week.

The Mac Plus and SE version of Mathematica costs \$495 and the Mac II version is \$795. As with Maple, competitive volume and educational discounts are available, and the company carries a special discount for universities bundling the program with Macs sold through campus stores.

Brooks/Cole Publishing Co. is located at 511 Forest Lodge Road, Pacific Grove, Calif. 93950; (408) 373-0728.

Wolfram Research can be contacted at P.O. Box 6059, Champaign, Ill. 61821; (217) 398-0700. □

THIS IS WAY BEYOND COMPUTERS.



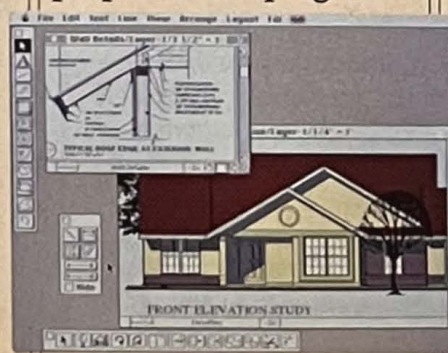
Dreams is so natural and free-flowing, it feels like this.

For years, conventional computer-aided design programs have given you powerful tools for drawing and drafting. But if you're like most design professionals, you still work by hand. Because the typical CAD program feels just like a computer.

Now, there's a whole new way to design. Dreams® It combines serious CAD features with an elegant human interface. Which lets you think more about creating and less about computing.

We designed it with you in mind. On Apple® Macintosh® systems. It's

a mid-range, multi-purpose CAD program



Structured drawings, details and illustrations are a snap.

that gives you MacDraft®-like drawing tools, color, layers, libraries, bezier and spline curves, advanced editing tools, PostScript® and much more. All with the most contemporary interface you've ever seen. Now

you can be more productive without spending months learning how.

We can only tell you so much here. But the more you know, the better it gets. To find out more call 415-680-6818 Ext. 420 for the dealer nearest you. Where you can discover what's way beyond computers.



DREAMS.

idd

2280 Bascom Avenue, Concord, California 94520 Tel. 415 680 6818

Dreams is a trademark and MacDraft is a registered trademark of Innovative Data Design, Inc. Apple and Macintosh are registered trademarks of Apple Computer, Inc. PostScript is a registered trademark of Adobe Systems, Inc.

Macintosh Products & Peripherals 30-70% Off.

SOFTWARE	HARDWARE	ACCESSORIES
We carry over 1000 software products for your Mac, so please call and ask for items not listed in this advertisement.		
Adobe Fonts 6-69 call	Hard Disk Drives by:	Disks:
Calculus 62.00	CMS, Everex, Magic, General	DS SS
Canvas 119.00	Computer, PCPC, NuData,	KA0 Bulk 1.35
Cricket Presents 309.00	Mirror, Rodime & AppleCrate	KA0 Boxed 15.50
Expressionist II 79.00	starting at:	Sony Boxed 17.50
FileMaker II 329.00		Sony Bulk 1.39
FoxBase+Mac 230.00	Internal External	MacDisk 1.25
Freehand 355.00	20meg 399.00 499.00	Black Ribbons 3.00
Freelance Plus call	40meg 649.00 699.00	Colored Ribbons 3.50
FullWrite Pro 285.00	60meg 649.00 699.00	Multicolored Ribbons 12.00
Graphist Paint II 269.00	91meg 1295.00 1395.00	Mac Plus Bag 59.00
Lightspeed C 105.00	150meg 1650.00 1750.00	Mac SE Bag 69.00
MacGolf Classic 63.00	300meg 2500.00 2500.00	ImageWriter II Bag 55.00
MacLink Plus 142.00	600meg 3995.00 3995.00	Teak Disk Box 5000/30 16/25/33
MacMoney 3.0 59.00	Grappler LQ 95.00	Disk File/30 7.00
MacRecorder 143.00	Epic 2400 Internal 299.00	Disk File/Handbook 19.95
Microsoft Products call	Shiva Netmodem 2400 469.00	MagicNet Connector 24.00
MiniCAD 4.0 372.00	Truvel Color Scanner call	Kensington Cable Ext. Kit 34.00
Quark XPress 2.0 499.00	DataCopy 730 Scanner 1399.00	
Quark Style 199.00	Sharp Color Scanner 5499.00	
PageMaker 3.0 419.00	ThunderScan 4.0 195.00	
Red Ryder 59.00	Omnican 499.00	
Statview II 369.00	Mac Recorder 143.00	
Suitecase II 48.00	Abaton Propoint 106.00	
Super3D 199.00	Turbo Mouse (Kensington) 110.00	
SuperPaint 81.00	A+ Optical Mouse 63.00	
Tetris 20.00	800K Drive 179.00	
Tops (Mac or DOS) 145.00	Monitorm 19" Monitor 1599.00	
	19" Sony Monitor 2950.00	
	Novy Mac20MX 699.00	
	QMS ColorScript 100 19,995.00	
	General Computer	
	LaserWriters call	
	2400 B Modem 139.00	

Payment: American Express, Visa, MasterCard (No surcharge), Checks, C.O.D., and Company & Institution P.O.'s. Net 10.
Tax: Texas residents only, add 8% sales tax.

Prices and items are subject to change and availability.
Terms: You are not charged until your order is shipped. Returns may be subject to a restocking fee.

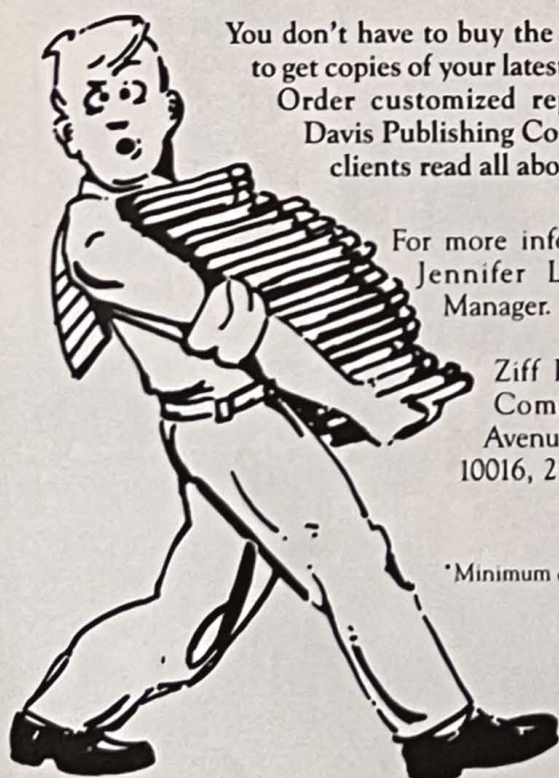
Shipping: Minimum \$4.50 - Airborne, UPS Next Day & 2nd Day Air, US Mail.
MacProducts USA carries over 2500 products for the Mac, so call for products not listed. Call for a free catalog.

Mention where you saw our ad and receive a free disk with purchase.

1 (800) MAC-DISK.

MacProducts USA
8303 Mopac Expressway, Suite 218 • Austin, Texas 78759

Haven't You Heard the News?



You don't have to buy the whole newsstand to get copies of your latest article or review. Order customized reprints from Ziff Davis Publishing Co. and let potential clients read all about it.*

For more information contact Jennifer Locke—Reprints Manager.

Ziff Davis Publishing Company, One Park Avenue, New York, NY 10016, 212-503-5447

*Minimum quantity 500 reprints.

NEWS

Newspaper designers rely on Mac, plan users group ...

BY STUART SILVERSTONE

LOUISVILLE, Ky. — With the alliance between the newspaper industry and the Macintosh community growing progressively stronger, participants in the ninth annual conclave of the Society of Newspaper Design held here last month began laying the groundwork for a new Macintosh users group for their profession.

"The reality is that the Mac is the only really practical newspaper publishing tool out there," said Roger Fidler, director of graphics and technology for the Knight-Ridder newspaper chain.

Formal presentations and numerous infor-

mal meetings between Mac vendors and top newspaper designers established improved channels for integrating high-end publishing requirements into new software products, representatives of both groups said.

The production of a 24-page, full-color broadsheet newspaper almost entirely on a Mac was taken in stride by the nearly 500 participants. A similar effort at last year's gathering was considered history-making.

Presidents of two major Mac software publishing companies, Bill Campbell from Claris Corp. of Mountain View, Calif., and Fred Ebrahimi from Quark Inc. of Denver, presented their views to the gathered designers on

See *NEWSPAPERS*, Page 20



The Louisville Chronicles, a 24-page, full-color broadsheet newspaper covering the Society of Newspaper Design annual conference, was produced almost entirely on the Mac.



... but question Apple's commitment

Given the closer alliances built at the Society of Newspaper Design conference between the Macintosh community and the nation's newspaper designers, there was a surprising amount of anxiety at the session about Apple's commitment to the newspaper publishing industry.

Macintoshes were the only computer in sight at the conference seminars and in the conference newspaper publishing room, but with no company representatives on hand, Apple was most notable for its absence.

"Apple is not being user-friendly," said Gil Roschuni, research and development manager at The Washington Times. "It recently raised its prices, something that had not happened to CPUs since the inception of the microcomputer industry."

"Apple is in a much more precarious position than it realizes. If it alienates its users, it will lose them. Users are attracted to the Macintosh because it is cost beneficial. As soon as that changes, Apple will have a problem."

"There is a fear that Apple is losing its enthusiasm for publishing, a perception that it is moving into multimedia presentations,"

said Roger Fidler, director of graphics and technology for the Knight-Ridder newspaper chain.

"Designers here have expressed to me that they love the Apple equipment and software, but that they don't feel good about the company any longer," said Fred Ebrahimi, president of Quark. "Apple has to become much more responsive to this market."

"Apple might view this industry as a small market, but the mass market consists of a series of vertical markets such as this one," Ebrahimi said.

"Does Apple understand that electronic publishing is a broad-based market?" Roschuni asked. "Corporations are now publishing documents instead of typing letters."

Providing the rationale for the enthusiasm of SND members to organize a Macintosh users group, Roschuni said, "Individual users can be ignored, but a large united voice complaining is hard to ignore."

Paraphrasing some foreigners' views of this year's U.S. presidential election, Ebrahimi summed up the undercurrent of frustration: "Perhaps Apple's management is too important to be left solely to Apple." — By Stuart Silverstone

Weekly newspaper chain goes wholly Macintosh

BY CONNIE GUGLIELMO

WEST HARTFORD, Conn. — Imprint Newspapers has discovered some truth in A.J. Liebling's remark that "Freedom of the press belongs to those who own one."

In July, the newspaper chain based here bought its freedom with the Macintosh.

Seven years ago, Imprint, which boasts 14 community weeklies in Connecticut and a circulation of more than 65,000 readers,

turned in its typewriters for a proprietary and costly newspaper production system. The company, like many other small newspapers turning to computer technology in the early 1980s, also found that it had to purchase an expensive service contract since the system could be repaired only by vendor-authorized representatives.

"When you buy equipment from one vendor, they, in essence, own you for the lifetime of the system," said Robert Baldwin, director of planning and development for Imprint. "Our thinking was that with the Mac, we would own ourselves, get off-the-shelf software, do our own code improvements and not be bound to any vendor."

Recognizing that the Mac is capable of doing many of the tasks previously considered the domain of proprietary systems, Imprint joined the growing number of newspaper and magazine publishers that have started to incorporate personal computers into the production process. Macs have found their way into the art departments of such big city newspapers as The Washington Post, San Francisco Examiner and The New York Times. The new San Francisco-based Smart Magazine proudly boasts that it is produced entirely on the Mac.

For \$150,000 Imprint "installed a system with twice the number of terminals, 200 times the amount of storage, twice the number of output devices, half the amount of cabling at less than half the cost of our original system," Baldwin said.

The company replaced its Compugraphic 8600 typesetter and the dedicated front-end workstations driving it, Harris Composition Systems, with about 30 Macs and two Varityper VT600 laser typesetters.

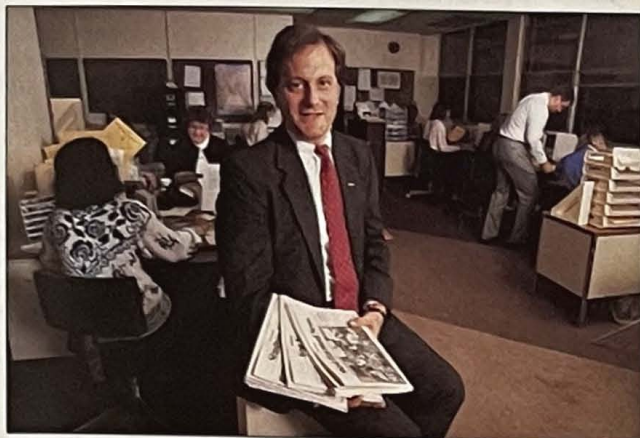
"The Compugraphic 8600 cost \$60,000 to \$80,000 per machine several years ago," Baldwin said. "The Varitypers were \$13,000 each. We not only doubled our output, we lowered our cost."

The Macs are connected using AppleShare networking software over Farallon Computing's PhoneNet, an inexpensive network cabling system that uses standard phone lines.

A Mac II equipped with 4 Mbytes of RAM and internal and external hard disks totaling about 250 Mbytes in storage space is used as the file server. The entire system has a storage capacity of about 630 Mbytes.

For software, Imprint chose Microsoft Word for writers, Aldus PageMaker 3.0 for editorial page layout and Quark XPress 2.0 for advertising composition.

Mr. Runsheet and Paginator, two software programs authored by Baldwin, are also used daily by Imprint's approximately 50 editorial, production and free-lance staff members. Mr.



Imprint's Robert Baldwin: "I first brought a Mac in here four years ago and people saw it and were attracted to it. It just spread."

Runsheet is a tracking program that monitors the size, modification date, name and location of stories across the network. Paginator is an automated page-dumming system that Baldwin hopes to market commercially this quarter.

Text for classified ads is entered into a database running on an IBM System 36, ported to the Mac using Sun Microsystems' TOPS network, converted to Microsoft Word and then typeset.

The only production element not done on the Mac is the creation of halftones of black-and-white photographs. Halftones are still generated in the darkroom, explained Baldwin, because Imprint is not ready to make what it sees as a still costly investment in a scanner, imaging software and the large amount of memory needed to process images.

Imprint was initially concerned that the quality of the final output from a Mac-based system would not be up to professional standards. It was also worried that the Mac network would not be capable of handling the weekly editorial traffic.

"We had this fear that there would be traffic problems when the staff filed stories to different locations across the network," Baldwin said, noting that each weekly publication averages 80 to 116 pages. The solution was to use applications locally and to use the network only for document traffic to and from the VT600s.

In terms of output, Baldwin said it is difficult to distinguish between newspapers created on the old system and the Mac. "We would have expected to hear our readership say something, but nobody has noticed any change in the quality," Baldwin said.

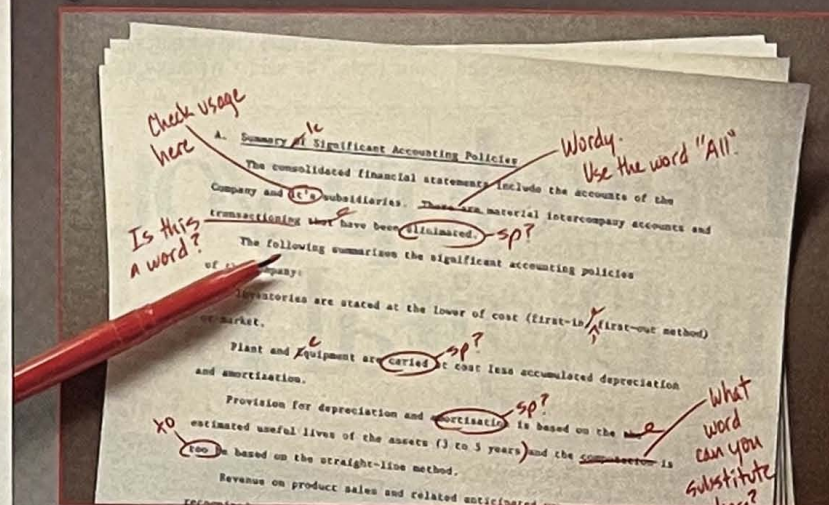
The one unexpected problem that arose because of the change is what Baldwin called a restructuring in jobs. With the layout system, several production jobs became obsolete. But since editors not only edit copy but design the news pages, they were required to learn how to create layout designs using PageMaker. Despite three weeks of training, Baldwin said, "it's going to be a little longer before they're up on the system."

He divides the staff into two groups: "There are people who 'glom' on to the Mac, who absolutely adore it and get with it in a week, and there are others who hate the technology."

For the most part, though, Imprint staff members are enamored with the new machines. "It's the old back door routine," said Baldwin, a longtime Mac enthusiast. "I first brought a Mac in here four years ago and people saw it and were attracted to it. It just spread. It's insidious, like a virus."

Imprint Newspapers is located at 20 Isham Road, West Hartford, Conn. 06107; (203) 236-3571. □

"It's not just a document,



it's your business!"

Only one thing could be worse than a document arriving *late*: arriving *wrong*!

A poor impression made by a badly written letter or report, littered with errors, can lose a contract or a sale.

MacProof™ points out possible errors in style, usage, spelling, punctuation, and capitalization. It also allows you to analyze the structure and flow of document.

Since **MacProof** works as a Desk Accessory, you can check for errors, review solutions and make corrections without ever leaving your document.

A few clicks of the mouse turns suggestions into corrections.

With **MacProof** your document arrives on time and *right*!

Ask your local dealer for **MacProof™** or call at (800) 467 0579 for information about the dealer nearest you.



LEXPERTISE
LINGUISTIC SOFTWARE

Lexpertise Linguistic Software, Inc.
642, Bryan Avenue
Salt Lake City, 84105 Utah.

MacProof is a registered trademark of Lexpertise Linguistic Software, Inc.

NEWSPAPERS

Continued from Page 18

the trend-setting importance of the newspaper publishing industry.

"You don't realize the value that your industry has to us as developers," Ebrahimi said. "You are very visible and you are very demanding. That pushes development of the technology."

Campbell said: "You are not a high-volume market. But what we can learn from providing systems that pass your inspection will allow us to further penetrate the commercial market. When high-end users discover new tools and

methods, those will work their way down to more-horizontal markets and provide better commercial products.

"We can see a micro-based — and I hope that means Macintosh — newsroom in the future," the former Apple executive predicted. "The biggest problem I see today in the industry overall is technology absorption. It hasn't occurred as pervasively as we'd like."

Don DeMaio, director of graphics for The Associated Press and moderator of the panel on which Campbell and Ebrahimi spoke, encouraged the audience to respond to the developers' openness. "We as designers complained in the past that we had no control over our tools," he said. "We have a chance now

with the new technologies to really shape how we are going to produce newspapers."

Most large daily newspapers are using Macs only for producing the infographics — maps, graphs and charts — that accompany and explain stories. A few designers have begun using the Mac, primarily with Quark XPress, to design layout mockups.

The major newspaper publishing tasks of editorial copy-flow management and camera-ready page production are still performed primarily on specialized minicomputer-based systems from vendors like AteX.

But industry experts at the conference predicted that the entire high-end publishing process will soon migrate to microcomputer-based

systems, a trend that has already begun with some smaller U.S. weeklies and foreign dailies.

"The main problem is getting text out of our AteX editorial system into Quark XPress on the Macintosh for pagination," said Gil Roschuni, research and development manager for The Washington Times. "A single-tasking operating system lacks editorial-management controls and the speed to handle all of the file transfers. The big breakthrough will be Apple's release of System 7.0 with multitasking."

"We will develop all of the software that our users require to do publishing for newspapers, books, magazines, catalogs," Ebrahimi said, suggesting the introduction of new types of products by Quark. "There is a tremendous need for an inexpensive color system for creating newspapers."

Remembering that much of the Mac's original attraction to newspaper designers was its intuitive interface, Campbell said, "We think that we can make high-end products for this industry and still keep the accessibility. Call it revealed complexity, where the software operates as simply as you want it, but the deeper you go into it the more powerful it becomes."

With very exacting requirements for laying out graphics and full-size pages, newspaper designers have long been concerned about locational inconsistencies between the Mac's QuickDraw screen display and the LaserWriter's PostScript output.

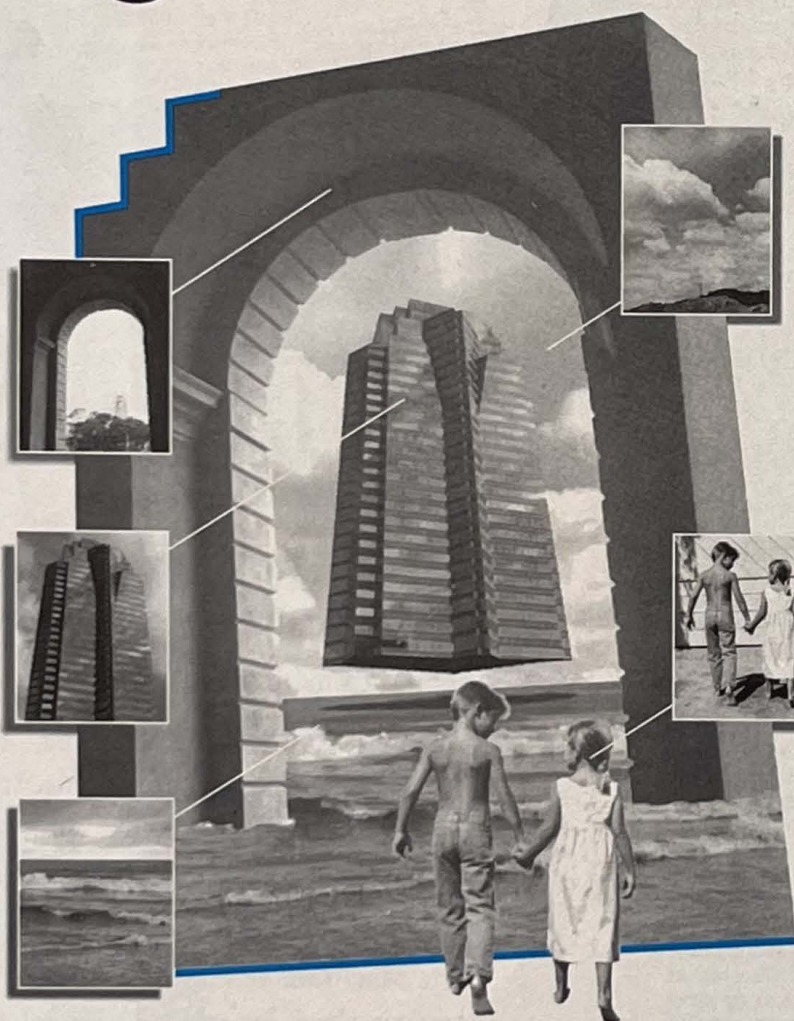
"The overwhelming demand here for Display PostScript caught us by surprise," Campbell said. "We're committed to Apple standards, which include QuickDraw-based

Develop your ideas in Digital Darkroom.

1 A classic arch becomes the anchor for this surreal composition. After eliminating unwanted areas, a stair-step design is added.

2 After being cut from its background, a skyscraper is added. A false bottom is created with simple retouching.

3 With the help of automated paste controls that replace tedious pixel editing, the waves wrap around the arch.



4 Using brightness and contrast controls, dramatic clouds are salvaged from an underexposed original and then pasted into the background.

5 Finally, the children step out of an otherwise ordinary photo — with the help of the Magic Wand automatic selection tool — to add the key dramatic element to the composition.

Imagine a computerized darkroom...in your Macintosh.® Software that gives you more control over grayscale images than even the most skilled photographer. That's Digital Darkroom.™

Unique "intelligent" tools eliminate much of the work in creating dramatic compositions, whether you're a beginner or a professional. You can automatically select objects using the Magic Wand, or blend one image into another with simple slider controls. You can freely slant, stretch or rotate your image to get precisely what you want.

For detailed retouching, you have brushes and filters that blur, sharpen, smudge or create complex textures and other special effects. You can even outline shapes in your images automatically with AutoTrace.™

And when it's just right on-screen, the exclusive Advanced Halftone printing option will give you the smoothest grays and sharpest detail you've ever seen on a 300 dpi laser printer — even on non-PostScript® language printers.

From simple retouching, to the wildest flights of imagination, develop your ideas — in Digital Darkroom.

Suggested retail price: \$395.
Special introductory price: \$295.

System requirements:
Macintosh Plus, SE or Macintosh II

Silicon Beach Software, Inc.
9770 Carroll Center Road, Suite J
San Diego, Ca 92126 • (619) 695-6956

Digital Darkroom and AutoTrace are trademarks of Silicon Beach Software, Inc. Macintosh is a registered trademark of Apple Computer, Inc. PostScript is a registered trademark of Adobe Systems Inc.



SILICON BEACH
SOFTWARE

Knight-Ridder's Roger Fidler: "The Mac is the only really practical newspaper publishing tool out there."

displays. But I'm sure Apple will continue to improve its products."

"If better WYSIWYG is not readily available from others," Ebrahimi said, "then we will make it available. There has been discussion about Display PostScript. We are certainly competent to produce that type of technology."

In the past, SND had been reluctant to affiliate with any equipment vendors or even allow them to attend their annual gathering, but in light of the pervasive role of the Mac in the industry, participants greeted the idea of a Mac users group with enthusiasm.

"We feel the need to educate ourselves and help our members learn the Macintosh technology," said John Walston, USA Today's deputy managing editor for graphics and photography. "We also must have the ability as a group to help influence and to help steer products in directions that we need."

Tom Priddy, graphics editor for The State in Columbia, S.C., said, "This meeting has shown us that it's important to have a good relationship with a vendor that has such a big impact on our work."

Ebrahimi and Campbell encouraged the participants to consolidate their influence. "For us to be able to continue to advance in software development, standards need to be broken. Demand more of us," Campbell said.

SND, its Mac users group and the organization's monthly Deadline Mac newsletter can be reached at Society of Newspaper Design, The Newspaper Center, Box 17290, Dulles International Airport, Washington, D.C. 20041; (703) 620-1083. □

Conference explores use of micros in publishing

BY PHILIPPE KRAKOWSKY
AND ALAN BRODY

NEW YORK — A roster of publishing industry luminaries had a chance to see the Macintosh in action at a two-day conference and exhibit here last month titled "Integrating the Personal Computer Into Newspapers and Magazines."

The event, sponsored by Electronic Directions, the innovative training and consulting company for electronic publishing, was designed to help publishers and business users learn about the flood of new products and technological innovations, from high-speed transmission of complex graphics to high-end color pre-press technology, that are making this field harder to keep up with and ever more daunting for newcomers.

A two-hour demonstration on the first day showed how a weekly four-color tabloid newspaper is produced from start to finish using off-the-shelf desktop publishing software, a Mac II and a Linotronic 300 for separations at 1,270 dpi.

Thirty vendors, including representatives from Apple to Xerox, had hardware and software on display.

The conference, held in the building that once housed the printing presses for Century Magazine, included a keynote address by Fritz Dressler, a leading industry analyst. Among the lecturers were Roger Black, formerly a designer at Newsweek and Rolling Stone and now design director for Smart magazine, and Janet Waegel, Smart's art director. The new national magazine of upscale fashion and the arts is produced entirely on the Mac.

Dave LaDuke, Apple's publishing markets specialist, was on hand to give out copies of Smart, compliments of Apple, along with "How Smart Was Made," a flier describing the production process.

Apple, which has distributed the magazine at recent trade shows, is encouraging desktop publishing organizations to buy four-issue subscriptions for their customers. Apple negotiated 20 percent reductions and will have "How Smart Was Made" bound into the December issue.

LaDuke's cover letter noted, however, that the magazine "may not pack the excitement of, say, MacWEEK."

Steve Luciani, The New York Times' manager for color technology, announced the paper's acquisition of Quark Visionary, an \$80,000 Mac II-based system linking Quark XPress layout software with Scitex America's full-color pre-press system. The system will bring color to the "gray lady," as the Times is sometimes called, by early 1990.

Don DeMaio, director of graphics at The Associated Press, described the transformation of a traditional news wire into a service that makes a specialty of informational graphics generated on the Mac. Such images are rapidly transforming the look of newspapers around the country, he said.

Among the 75 individuals in attendance were representatives from leading national magazines and book publishers as well as local newspapers. Participants fell into three major categories: graphic artists and art directors, system and network administrators, and publishing executives.

Attendees paid \$495 for the event and most seemed to find it worth the expense. One designer from a leading consumer magazine said the seminar "conveyed an awesome amount of information, enough to fill an entire book." The pre-press director of a leading magazine publisher concurred: "This is the

single most valuable source of information I've encountered."

"There will soon be a desktop analog for every function in the publishing industry," said Traci Sampson, program director for the conference. "When publishers begin to integrate computers, they find the job is extremely comprehensive. That's the challenge they face." □

Phone allows background transfer of files

HAMPTON, Va. — AppleTalk calling? No, it isn't a wayward Avon lady babbling about Macintosh connectivity, but an AppleTalk file-transfer program.

AS&M Phone, or Phone, from Analytical Services & Materials Inc. establishes an "interactive" link between two Macs that lets users transfer files in the background while simultaneously performing other tasks, according to the Hampton, Va., company.

Phone consists of a desk accessory and a control panel document called Phone DA and Phone, respectively.

Phone requires System 6.0 or later, although AS&M recommends System 6.0.2. Phone supports multiple AppleTalk zones and is compatible with both the Finder and Multi-Finder. Phone doesn't require a dedicated Mac.

Phone is available in a \$60 single-user license version and a \$900 AppleTalk zone license version. As part of an introductory offer, each version is selling at a reduced price until Dec. 31. The single-user version is \$54 and the AppleTalk zone version is \$810.

AS&M is located at 107 Research Drive, Hampton, Va. 23666; (804) 865-7093. □

At Leasametric, we stay on top of every Macintosh we rent.

With the most complete array of services anywhere—installation, a toll-free number for on-line diagnostics, short and long-term rentals, and both operating and finance leases. All tailored to your individual needs.

Leasametric lets you choose from one of the largest, most consistent nationwide inventories of Apple® computer products. Rent or lease the Macintosh® SE, with its advanced graphics and large storage capacity for memory-intensive applications like spreadsheets and databases. Or the high-performance Macintosh II, whose great speed and open architecture are ideal for advanced applications in business, science, engineering and desktop publishing.

There's the full family of LaserWriter® II printers as well—the indispensable desktop publishing tools with more type styles, better high-resolution graphics, and full networking capability.

And we have the Apple-compatible equipment you need for a multi-vendor network. Plus the support you need to keep any network in top condition. Comprehensive support—including on-site maintenance and return-to-depot programs—that's helped make us the nation's largest source for rental and leased computer equipment.

So the next time you need Apple products, call the people at the top for service and selection—the professionals at Leasametric.



Authorized
Value Added Reseller

LEASAMETRIC

Data Communications

Northwest: (800) 343-7368, (415) 574-5797 • Southwest: (800) 638-7854, (818) 708-2669 • Central: (800) 323-4823, (312) 595-2700
Northeast: (800) 221-0246, (201) 825-9000 • Southeast: (800) 241-5841, (404) 925-7980

© Leasametric, Inc. 1988. Apple, the Apple logo, Macintosh, and LaserWriter are registered trademarks of Apple Computer, Inc.

Editorial

NeXT: Breakthrough or marketing hype?

The recent NeXT announcement was accompanied by the greatest level of public attention since the introduction of the original Macintosh. Opinions concerning whether the machine deserves the surrounding hoopla have been remarkably varied. In the view of some, the machine represents a breakthrough; to others, it has been just so much marketing hype.

One reason for the disparate opinions is that the NeXT machine still constitutes vaporware. Applications are few and far between, and Version 1.0 of the NextStep development software won't be available before March 1989.

Even so, the NeXT machine presents a coherent vision for a new generation of personal computing and is, in that sense, a breakthrough. Quite possibly, other platforms will perform many of the same capabilities better than NeXT. And there's no guarantee that NeXT Inc. will survive the technological and marketing minefields it will encounter in the coming years.

NeXT's presence in the market could eliminate complacency.

But the machine, by providing impressive performance, built-in digital-signal processing, optical-magneto mass storage and the promise of a superb programming environment, offers capabilities never previously associated in one package at a relatively low price.

Moreover, the appearance of the NeXT machine will spur Apple and other workstation vendors to match and exceed the capabilities of Steve Jobs' latest machine. That will benefit all users, not just the educational market targeted by NeXT. And if the computer market continues to follow the dynamics that have characterized it to date, prices on second-generation technology will drop, too.

Given the disparities in raw horsepower and price, the NeXT entry casts doubt on the pricing rationale of Apple's Mac II and Mac IIx. And if Apple does lower its prices, then Mac users will benefit from this breakthrough product also.

There is another aspect to this trickle-down scenario, and it is software. The NeXT machine has precious little and the Macintosh can boast a great wealth. Even so, there is always room for improvement.

However, the Macintosh is well-known as having a difficult programming environment. Perhaps NeXT's providing a pure object-oriented programming language will spur Apple to place a stronger emphasis on its own development-language efforts. The resulting application software could benefit Mac users as well.

Obviously, then, the greatest importance of the NeXT machine is its function as catalyst. Few people will see or use the machine in the coming year. But its presence on the market will prod others to greater innovation.

Perhaps NeXT will become the Osborne Computer of our day, triggering a new round of innovation even if its marketing falters and eventually fails. Or perhaps NeXT will become the latest success story.

In either case, the computer market as a whole can be thankful that NeXT delivers a vision of the future to push vendors out of their complacency. □

RasterOps does work with Apple

In the Window On Graphics Boards (Oct. 11) Robert Grossblatt states: "Unfortunately, because Apple has not announced standardized QuickDraw or file formats for 24-bit color, manufacturers of 24-bit cards, such as RasterOps, cannot guarantee future compatibility." Then he goes on to quote RasterOps' competition, TrueVision, saying that "All the guys doing things on their own now are going to be in trouble later on."

RasterOps has been working with Apple since day one — first to develop its ColorDraw 24-bit graphics software, then to help Apple develop 32-bit QuickDraw.

Second, RasterOps has developed an upgrade program for any of its customers who eventually will want to upgrade to full-chunky technology once Apple ships System 7.0 and software developers begin to develop 24-bit color software. So no one will be left out in the cold. In the meantime, anyone with eight-bit software can use RasterOps planar/chunky implementation and run eight-bit software in 24-bit mode without modification!

LETTERS



This is very important to all the eight-bit installed base.

Laurie McLean, president
McLean Public Relations
Redwood City, Calif.

Hands on with Apple Scanner

Your Oct. 4 issue featured a review of Apple's flat-bed scanner.

Once I started reading the review it became clear that Bruce Fraser had spent far too much time with the manual and not enough hands-on time using the product. I have been using the Apple Scanner daily for the past six weeks. Here are a few of the things I found that Fraser failed to point out:

1. After scanning 11 items, regardless of the amount of RAM you have, the Scan option turns gray, thereby shutting itself off as an option. You are then required to use the Restart AppleScan option under the File menu to reboot the software.

2. When using HyperScan, you'd better have a good working knowledge of HyperCard. That's because all of the more powerful commands must be typed into the HyperCard message box at the bottom of the screen. It seems Bill Atkinson hasn't heard of including the most-used commands in, say, pull-down menus.

3. Fraser liked AppleScan's ability to adjust the contrast and brightness by going out and rescanning a small area and displaying it on the screen. Digital Darkroom and ImageStudio do this on the fly, with no need to fire up the hardware to take another look.

See LETTERS, Page 26

MAC SOAPBOX/Leonard Charnoff

Presentations: Easier but uglier

Desktop presentation has made it far easier for companies to create vivid presentations for prospective clients. But that doesn't mean that sales presentations are any better. In fact, they are probably worse.

Desktop presentation has given professionals the ability to quickly turn out more garish, nonsensical graphics in the vain struggle to compensate for weak sales pitches. The presenter often is given the choice of 16 million colors and 155 fonts. The presenter, often without training, then generates visuals that I dub "presentation poop."

Good presentations are a rich tapestry of strong images and persuasive prose. First-rate presentations come about when their creator has followed specific procedures — procedures often overlooked by software companies in their zeal to attain market share. Here are some guidelines the presenter should find helpful:

- The message is always the medium. Visuals are an adjunct to the speech.
- Know your audience. They are always asking, "What's in it for me?"
- Keep it simple. Your audience has a limited attention span. Most college-educated adults tend to lose interest within seven minutes unless



sufficiently motivated. Limit information to what can be read in 30 seconds.

- Be consistent. Use a limited palette of colors. Every time you change colors, the eye alerts the brain that something different is happening.
- Typography is an art. Change fonts only when you have a legitimate reason. Good presentations rarely use more than three fonts. Helvetica is an excellent choice for a header, but a serif font is easier on the eyes when reading long copy.
- Be succinct. Your visuals are the melody. No line of text should exceed six words. Your presentation is the symphony.

• Use the correct graphs. The most abused chart type is the pie chart. Graphs, like words, are functional. The right chart neither confuses the audience nor alters the message.

• Pace your presentations. Good visuals should change every 30 to 45 seconds. Your visuals should change just as the pitch of your voice changes.

• A good presentation has parts. Tell the audience, review what you are saying and tell them again.

In addition to these guidelines, people should keep in mind two rules that apply to all presentations: One, every presentation will require changes, primarily when it's least convenient. And, two, Murphy is alive and well and ready to strike at your presentation. Always have a backup. Your talk could be in Houston and your slides in Denver.

Presenters, like actors and athletes, are not born. It takes plenty of training to make a stellar presentation. If you're like me and failed scissors in kindergarten, you'll appreciate that with the right hardware, software, training and practice, there is hope.

My choice of hardware for creating presentations is the Macintosh II, the criteria being its speed and color capabilities. When you're cranking out visuals as your screen

See SOAPBOX, Page 26

Climb out of the Macintosh networking swamp.

Transparently integrate Macintosh into your Ethernet/NFS environment.

Integrating Apple Macintosh™ computers into your Ethernet network has traditionally meant wading through a swamp of hybrid solutions. Running one vendor's software through another vendor's hardware. Installing foreign networking protocols on Macintoshes, or AppleTalk™ protocols on other computers. Not anymore.

Introducing the GatorBox™ intelligent gateway from Cayman Systems. The first LocalTalk™-to-Ethernet gateway which *transparently* integrates Macintoshes into an Ethernet environment, and provides Macintosh users with the file, terminal and printing services that high-performance networking demands.

Just plug your LocalTalk and Ethernet or Thin Ethernet networks into the GatorBox, run the simple GatorBox configuration program, and any Macintosh user on LocalTalk or EtherTalk™ can use AppleShare™ to share files with computers which support the Network File System (NFS) from Sun Microsystems, like Suns, VAXs or Macintoshes running A/UX™.

The GatorBox lets Macintoshes access NFS servers as if they were AppleShare servers. And *no Cayman software is installed on any Macintosh or any NFS server*. It all runs on the GatorBox. Macintosh users only need the

AppleShare workstation software—which Cayman is licensed by Apple to distribute along with the GatorBox.

Since the GatorBox is also a full AppleTalk bridge, it supports software developed to work with the Kinetics FastPath, like TOPS, software from Alisa Systems and Pacer Software, and public domain file sharing and terminal emulation applications.

No other LocalTalk-to-Ethernet gateway is intelligent enough to transpar-

ently integrate the Macintosh into high-performance networking environments. So let the GatorBox pull you out of the Macintosh networking swamp.

For more information on the GatorBox, contact Cayman Systems at (617) 494-1999.



GatorBox and the Cayman logo are trademarks of Cayman Systems, Inc., One Kendall Square, Building 600, Cambridge, MA 02139. Macintosh AppleTalk, LocalTalk, EtherTalk, AppleShare, A/UX and the Apple logo are registered trademarks of Apple Computer, Inc. VAX is a registered trademark of Digital Equipment Corporation. Ethernet is a registered trademark of Xerox Corporation. NFS and TOPS are trademarks of Sun Microsystems. FastPath is a trademark of the Kinetics division of Excelan Inc.



VISIBLE RESULTS

Curing a dislocated disc

Techniques for reading PC-format CD-ROMs from the Mac

You no longer need an IBM PC just because the data you want has been distributed on an IBM-style CD-ROM disc. With a Macintosh II and some assorted new software, I managed to read one such volume with less trouble than I would have had on any of Big Blue's machines.

This whole project started because I've come across a new PC-format CD-ROM disc that is becoming essential to my work. It's The Computer Library, a collection of abstracts and full-text renditions of articles about personal computers published by Ziff Communications, a corporate sibling of MacWEEK.

I started using The Computer Library to look up articles about MS-DOS machines, but the collection also includes the full text of MacUser and the Macintosh coverage in PC Week, as well as abstracts of Mac-related articles from InfoWorld.

Unfortunately, like the disc's contents, its normal access methods are heavily biased toward the PC.

The disc is organized in the High Sierra/ISO format that is supposed to be readable on different types of computers. But the only way to access its information is through the included Bluefish search-and-retrieval engine program from Lotus. Bluefish runs only on DOS-based PCs.

I realized, however, that I have access to all the parts of what should be a complete Mac-based CD-ROM reading system (a Mac II, an Apple CD player, the Apple ISO CD driver software, Insignia Solutions' SoftPC program that emulates an IBM PC and The Computer Library disc). Was it possible, I wondered, to put these together and dispense with the PC entirely? The answer turns out to be yes.

Together with Raines Cohen of BMUG in Berkeley, Calif., I installed the pieces one afternoon. (We also had the benefit of a little advice and encouragement from the Apple CD group.) After only a few hours, we were browsing through a number of CD-ROMs meant for the PC. That in itself was nice, but what impressed us was how well all the various elements worked together.

Our first step was to install the new Apple CD-ROM drivers. Like most driver installations on the Mac, this was a cinch. Just drag the supplied files into the System folder and reboot. (We also installed the Remote Control desk accessory in case we had time to listen to any CD audio discs.)

The equivalent process on a PC is conceptually the same, but in fact it is more complex. Instead of dragging files into a folder, you have to set up the appropriate subdirectory, pick the driver for your brand of CD-ROM and fill in the parameters.

On the PC, incidentally, most High Sierra/ISO discs need another piece of system software besides the basic driver. MSCDEX, Microsoft's CD-ROM Extensions, forms a bridge between the driver and operating system that allows CD-ROM files to be treated like files on a protected magnetic disk. Without this bridge, most versions of DOS can't handle the hundreds of megabytes stored on a single CD-ROM.

On the Mac, the drivers make the CD-ROM discs (including those with the High Sierra/ISO formats and those in the Mac's own hierarchical file system format) appear as ordinary HFS volumes to the rest of the Mac software.

This means that if we had only a High Sierra/ISO data disc, we could have stopped at this point. On data-only CD-ROMs, files show up as generic icons on the Mac, which can then be read by any Mac application that knows how to handle the contents of the selected file.

Reading The Computer Library with a Mac, however, requires more than the ability to access the disc directory and files. Yes, the Mac could read the disc, but it still couldn't run the Bluefish program written for DOS-based hardware.

Our next step was to install SoftPC on the Mac after removing some old files from the Mac's hard disk to free the needed 3 Mbytes of space.

SoftPC has its own installer script, which made installation a matter of clicking on one icon, then inserting four disks in sequence. While it seemed to start up immediately, we had a brief detour as we figured out which drive was which. (The MS-DOS "A" drive is the Apple 5.25-inch disk if you have one attached.) Until you figure that out, you're likely to get MSDOS' equivalent of the sad Mac face, the Non-System Disk message.

When running MS-DOS, SoftPC lets you create additional hard disk drives in DOS-only format. (We made a 2-Mbyte drive "D.") But it also lets you use a standard Macintosh file-selection box to set logical drive "E" to any Macintosh HFS volume. SoftPC performs the necessary translations from HFS to PC directory formats and back.

We, of course, set drive "E" to the CD-ROM disc. So now we had the Apple CD-ROM drivers converting High Sierra/ISO to HFS, and SoftPC routines converting HFS to MS-DOS.

It worked. To Bluefish or to any other program running under Soft-

PC, the CD looked like a normal MS-DOS-protected (locked) volume.

The August beta copy of The Computer Library has more than 4,000 citations containing the word "Macintosh." Even BMUG is mentioned six times. (I looked up my own name when using the PC, but I won't elaborate out of modesty.)

The PC still offers plenty of uses, of course, and each tool has its place. But unique access to essential information needn't be the distinguishing mark.

And besides saving space on the desktop, getting access to the more practiced PC-style CD-ROMs could be important for teaching new Mac CD-ROM publishers about possible data organization and user interfaces. And that, as we'll see next time, remains an area where most Mac data publishers could use some alternatives. □

Mac Sound-Byte

SOFTWARE FOR SPEECHES & DEBATES



Featuring:

- A library of jokes, copyright-free quotations, and Deeply Held Moral Beliefs for all occasions
- Poll results downloaded into spreadsheets for Least Common Denominator calculations to give you all the right issues
- Automatically places cue icons for hand gestures and smiles
- Variable settings for Warmth and Toughness

Win the hearts and minds of America and unlimited free TV coverage for only: **\$199**

SCREEN SHOTS/Laurie Wigham

ROUND ROBIN/The Arts

The fear of displacement

Artists must view computers as tools

Creative professionals are losing their jobs to computers. That sentence has a menacing ring to it, and it's the ring of truth.

Look at the world of music. Today's sophisticated computer-controlled sound systems can mimic almost any musical instrument, enabling bands, orchestras and performers to use far fewer musicians.

The electronic drum is a perfect example of how digital sound has affected musicians, especially in popular music. Complex arrangements are often the work of a single musician, digitally manipulating sampled sounds from a variety of musical sources.

New York's Broadway unions are neither impressed nor amused. They see digitized sound as a serious threat to musicians and have banned it from Broadway wherever it might be used to replace an analog musical instrument.

But Broadway notwithstanding, musicians who have embraced MIDI and sampling technologies tend to benefit from it, while those who haven't are finding fewer opportunities for creative development — and fewer gigs. For those artists, the brave new world of digital media is a scary place. But should it be?

Herbie Hancock didn't know a bit from a byte when he coaxed his first riffs from an old Apple II. Mike Saenz sat in front of a Mac one day and simply began drawing his brains out. Peter Jennings covered the presidential conventions using a

never-before-attempted HyperCard prompter system.

April Greiman had the audacity to not only attempt a bit-mapped Macintosh design for an important sculpture commission, but to fax the plans to Venice where the final sculpture can be seen on display at the Fortuny Museum. And the pro-

I've seen artists tremble at the sight of a Mac.

duction of the next "Star Trek" movie, directed by William Shatner, relies heavily on innovative Mac technology. Each of these artists looked the Macintosh straight in the eye and said: "I'm an artist and you're a tool. Let's make beautiful music together." And they did.

But far too many of their fellow artists have not — mostly out of fear. The fear of computer displacement is a special kind of computer phobia. Many professionals throughout the creative arts (theater, dance, film, video, photography, fine arts, literature and graphic arts) view the computer as a potential threat to their livelihoods.

And this underlines an important distinction between computer phobia and the fear of displacement in the arts. Most artists aren't nearly as afraid of the computer as a tool as they are resentful of

the computer as a competitor.

The computer as competitor? Well, consider this. When your ability to earn a living is suddenly threatened, and you feel as though you're being hit particularly hard, perhaps below the belt, it doesn't really matter whether the source of your trouble is man or machine. In fact, losing your job to a fellow professional is bad enough, but the idea of losing it to a machine can be devastating. I've seen artists literally tremble at the sight of my Mac II, as though it were emitting some invisible death ray aimed right between their eyes.

I'm not kidding. These otherwise intelligent, creative people have apparently invested the computer with characteristics normally reserved for a mortal enemy.

I sympathize. But sympathy is cheap; what is needed here is a positive attitude and a strong dose of reality. A journalist who views the computer as an enemy will never see that it's a powerful creative ally. Choreographers who believe the computer threatens their livelihoods fail to see how it opens up avenues of creativity and opportunity.

Each of us is a potential Herbie Hancock, Mike Saenz, Peter Jennings, April Greiman or William Shatner. Sure, computers may seem intimidating at first, but they are also exciting, exasperating, humbling, challenging and ultimately satisfying.

What more could a creative professional possibly want? □

Rick Barry is a graphic designer, illustrator and creative director of DeskTop Studio in New York. He is a former president of the Graphic Artists Guild of New York.

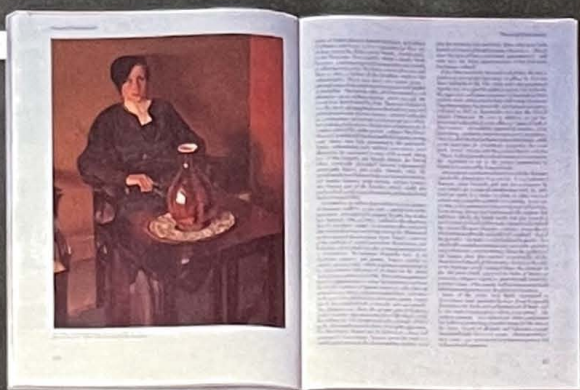
TextPert™ Reader.

We've got a new concept in Optical Character Recognition for the Mac. It's called TextPert.

We'll show you five good reasons that make TextPert the most intelligent OCR purchase you can make.

1 Flexibility

Flexibility in the type of document you want to read —(TextPert can read documents as simple as mono-spaced, typewritten pages or as complex as newspapers and telephone directories). Flexibility to read any text - bold, italic, written in a foreign language with special characters, or written in an unusual font. Flexibility in choosing the scanner you want to use or turning the scanner you already have into an Expert TextReader— (we work with all Macintosh compatible scanners on the market).



2 Ability

Ability to read columns of kerned text from 4 to 36 points in size printed on poor quality paper. Ability to read columns or tables of information, maintain their format, and import them into databases. Ability to read text even if it has up to a 25% rotation.

3 Compatibility

TextPert is compatible with you. It is intuitively written to modify the reading parameters automatically according to the document it is reading. And it is compatible with all of the major word-processing and page layout programs available on the Macintosh.

4 Affordability

TextPert gives you the power and functionality of large OCR systems at a fraction of the price.

5 It Works

Unlike other programs which claim to give you large system functionality at a fraction of the price, TextPert works... with an error rate of less than 1/2% on high quality originals.



TextPert™
Expert Text Reader

TextPert reads quickly and accurately, with maximum flexibility, and at an affordable price. Call us at 1-800-592-2209 for more information, or 212-759-6201 in New York State. In Canada, call 1-800-668-8986

CTA

c/o Trans-National Trade Development Corporation
866 Second Avenue
New York, NY 10017
(212) 759-6201
Fax (212) 644-9867

In Canada,
c/o Uppercase Technology Inc.
PO Box 3280
Markham Industrial Park
Markham, Ontario L3R 3L0

SOAPBOX

Continued from Page 22

is repainting, you can never have a machine that's too fast.

There is no perfect graphics package, just lots of good and horrible ones. Presentations need a variety of functions and a plethora of output devices. When you choose your package, you have to consider your final output. Using a package that doesn't offer high-resolution, economical slides is an exercise in futility.

Make sure the package handles the importing of text well. Sixty-five percent of

your presentation will mostly likely be text-intensive. There is nothing more annoying than having to rekey your data. A hot link to a spreadsheet is another necessity.

Finally, since Ben Franklin was right on target when he said, "Time is money," get proper training in the specific software package or the art of making effective presentations. A good instructor will ensure that you learn the fine points of persuasion. You might want to look for a training center whose instructors actually make presentations. This way you can avoid those instructors who just parrot back the manual.

Creating effective visuals for presentations always has a deadline. Find out if the instruc-

tor knows the relationships among copy, editing, outputting, imaging and rehearsal. Any credible training organization will let you audit one of its courses for part of the day at either no charge or a nominal fee.

Just remember that a good presentation does not come canned in a software program. Good presentations are always a combination of preparation, good material, excellent visuals and practice. □

Leonard Charnoff is a presentation graphics specialist and training director at the Micro-computer Publishing Center in New York. He hosted "Online," a New York radio show for the novice computer user.

LETTERS

Continued from Page 22

4. Fraser never really discussed the interface, although he included a picture of it in the article. This should have been enough for an obvious comment: It's cluttered! All of the windows have to overlap unless you are using a 19-inch monitor. When using AppleScan, 25 percent of your time is used clicking between the different windows to make them active.

5. The review mentioned that one of AppleScan's nicest features was the ability to scan at a resolution of 300 dpi and save the images in TIFF. It also mentioned briefly that they couldn't be printed out in this format. Why not?

Both Letraset (ImageStudio) and Silicon Beach (Digital Darkroom) are coming out with add-on features to their respective products that will allow users to scan images directly into either package. When this becomes reality, the AppleScan package's life will come to an abrupt end, as the user will no longer have to switch between the Apple product and a fully functional third-party product to get a single job done.

I consider [Apple Scanner] one of the finest peripherals ever manufactured by a computer company. We can only hope that next time [Apple] will pay attention to the quality at both ends of a product of this magnitude.

Chuck Farnham
Digital Deviations
San Jose, Calif.

Bruce Fraser replies:

To address your comments in order,

1. While the 11-page scan limit is an inconvenience, it is documented and will not prevent anyone from getting the job done.

Also, since the limit is in AppleScan, multi-page scanning using optical character-recognition software would not be affected.

2. HyperScan is primarily a tool for building stacks, an activity that presupposes a working knowledge of HyperCard.

3. With AppleScan, you adjust the contrast and brightness settings to get the best original image. With other programs your adjustments, affect the appearance of the image, but they're limited by the quality of the original scan.

4. You thought the interface was cluttered, but I felt it was flexible. Also, all the important commands are available on the menus, which fit on any size screen, or from the keyboard.

5. Regardless of the software used, it is impossible to print a true gray-scale image — printers don't use gray ink. When an application seems to print a gray-scale TIFF, it is converting grays to halftones on the fly. AppleScan correctly distinguishes this conversion from the actual printing. And at 300 dpi, your printed results from PICT halftones will be the same or better than from TIFF gray scales.

Finally, it's important to remember that, good as it is, the Apple Scanner defines the low-end of the gray-scale scanner market. Comparing AppleScan to image-retouching software doesn't seem appropriate.

Now that's a megafloppy

While I was interested in the small size of the Liberty hard drive (Oct. 4), I am really interested in learning more about Apple's "800-Mbyte floppy drives." Is this a new product that Apple has come out with while I was on vacation? Will this be on 3.5-inch floppies or is there a new 2.25-inch version?

Kevin L. Elder
San Luis Obispo, Calif.

Gee, we must have been low on memory when that one slipped by. Thanks for the error message. — The editors



GET MORE BYTES FROM YOUR APPLE

Before today's high-powered Macintosh software can "devour" all your memory, let Micron put more bytes in your Apple.

Our Macintosh Memory Expansion Kits are designed to support today's most advanced programs — and to maximize the speed and performance of your Mac. Each kit is fully compatible with all Macintosh software, and features fast, low-power CMOS SIMM modules for an additional 1 to 8 megabytes of RAM*.

So you can still run all your favorite programs while expanding your memory to execute the newest generation of software, like MultiFinder,

HyperCard and Excel.

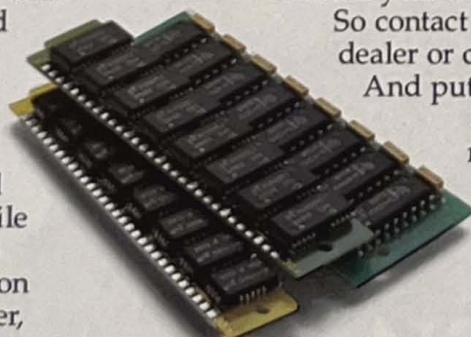
And like all Micron products, our Macintosh Memory Expansion Kits are manufactured and tested under the industry's most stringent quality control standards. Plus they're backed by our "Hands on Excellence" service program and a 2-year limited warranty.

So contact your local Micron dealer or call us at 1-800-642-7661.

And put more bytes in your Apple. Micron. It's a name worth remembering.

* SIMM kits available for the Macintosh Plus, SE and II.

Macintosh, MultiFinder and HyperCard are trademarks of Apple Computer, Inc. Excel is a registered trademark of Microsoft Corporation.



MICRON
TECHNOLOGY, INC.

2805 E. COLUMBIA ROAD, BOISE, IDAHO 83706 (208) 386-3900

"Data Desk Professional is the perfect extension to StatView 512+."

— Sherwin A. Steffin
President, BrainPower, Inc.

Attention StatView 512+ Owners

"When products complement each other the user wins"

— Prem Chawla
General Manager,
Odesta Corp.

BrainPower and Odesta join forces to make you an outstanding offer!

You bought **StatView 512+** for its number crunching power, interactive design and ease-of-use. It has received numerous user awards, including back to back MacWorld World Class Awards in 1987 and 1988. Now, BrainPower, Inc. is very pleased to offer you the perfect complement to StatView 512+: **Data Desk Professional**.

Data Desk Professional, from Odesta Corporation, gives you:

- Multiple windows so you can see several views of your data at once.
- Linked plots, so that changes in one plot are instantly reflected in all others.
- Dynamic graphics, including 3-D rotating plots and plot "brushing."
- The ability to save and repeat an analysis for new or corrected data with just a click of the mouse.
- A full algebraic language for data transformations and calculations.

Data Desk provides all this and more in a desktop environment that incorporates "...some of the best ideas about data analysis and user-interface design that have been developed over the past 20 years." (MacWEEK, August 14, 1988)

Explore your data in new ways

You can easily move your data to **Data Desk** from **StatView 512+**. Then see your data in new ways using **Data Desk Professional's** unique visual interface.

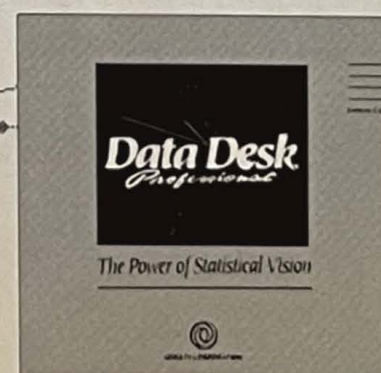
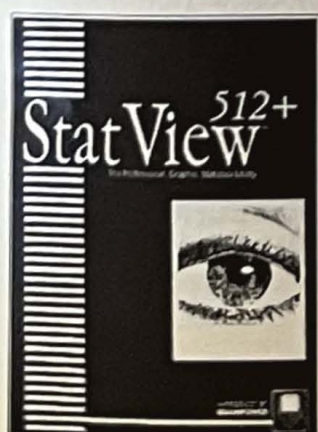
Each of **Data Desk's** plots and analyses provides a further way to work with your data. Want to reposition a scatterplot? Just push the points with the grabber tool; the axes adjust automatically. Want to add a new variable to a regression? Just drag the variable's icon into the regression window. Want to try a different transformation? Just edit it and update any window you choose. Comprehensive hypertext-style on-line help is available whenever you need it.

Data Desk was written by Dr. Paul Velleman, Professor of Statistics at Cornell University. Dr. Velleman notes that "**StatView 512+** and **Data Desk Professional** work well together because they address

different aspects of data analysis. **StatView** follows traditional methods of statistics. By contrast, **Data Desk** helps you to look at your data without the need for a hypothesis to test or a model to fit."

Act now to take advantage of this special offer!

StatView 512+ represents the best in traditional statistics software; **Data Desk Professional** represents the best in modern data analysis and graphics. Together, they form an extremely powerful combination, available for a limited time to you—the **StatView 512+** owner—at a *special savings*! Call us today at **818-884-6911** (inside California) or at **800-345-0519** (outside California) for specific details on this special offer.



BRAINPOWER, INC.

24009 Ventura Blvd., Suite 250
Calabasas, CA 91302

818-884-6911 (Inside CA) • 800-345-0519 (Outside CA) • FAX: 818-884-6931



At Apple, we're always open to improvements.

When Apple introduced the Macintosh® II computer early in 1987, we knew we were opening ourselves up to a world of new opportunities. Because with its immense power and speed, its large monitor and color capabilities, along with six open slots for increased functionality, the Macintosh II was an idea that was just asking to be expanded upon. Others quickly obliged.

And so there now exists a rather impressive industry of talented companies who make it their business to get the Macintosh II to do exactly what we designed it to do. Namely, to put vast powers of creativity, productivity, and analysis in the hands of individuals.

The products of these companies represent a sophisticated second generation of hardware and software.

Including those that open convenient channels of communication and operation between Macintosh and PCs.

That reveal the mountains of information locked inside mainframes to anyone who needs it. That make it easy to link people using different kinds of computers into large, fluid networks.

That bring the persuasive powers of sophisticated graphic presentations to people who don't pretend to be designers or artists themselves. And that put the power of the press in the hands of anyone with ideas or with news to spread.

And because all Macintosh programs, no matter how advanced, use a common visual command system, knowing how to use one is to be well on the way to mastering many.

The expansive talents of Macintosh are inspiring a continuous stream of advances. Including, even, a new one from us—the Macintosh IIx. It features the powerful new 68030 processor. And delivers the benefits of integrating computer systems. Because with the appropriate software, the IIx reads disks in multiple formats. Including MS-DOS, OS/2, and, of course, Macintosh.

If your imagination is fired by new ways of working, new ways of communicating, new ways of running a business, explore the ever-expanding capacities of Macintosh II. And that's an open invitation.



The power to be your best.™



Macintosh IIx

Good. Here are four of them.

We couldn't help overhearing the ad next to us. And, frankly, it sets us up quite nicely to introduce four new Microsoft programs for the Macintosh.* Programs that go a long way toward making the Macintosh II—with its vast power, speed, and color capacities—live up to its full potential.

As the leading maker of Macintosh software from the beginning, we're particularly well qualified to make these introductions.

Each is designed to deliver not only superb individual solutions, but when linked together, to form a sophisticated system of complementary applications.

Microsoft® PowerPoint® version 2.0. The next time you have to stand in front of a live audience, come properly armed. The latest edition of our immensely popular, easy-to-use presentation program now has the added ability to mount your productions in full color on overheads and 35mm slides. If you practice the art of peaceful persuasion, PowerPoint is the indispensable tool.

Microsoft Word version 4.0. Soon to make its debut is Word 4.0. A program that redefines what a word processor should do. It delivers true "what you see is what you get" document processing, even displaying columns on-screen—newspaper style or side by side. And Word not only creates tables, but also links them to Microsoft Excel for instant updates.

Microsoft Excel version 1.5. The premier tool of financial analysis and numeric interpretation has just raised the premium. Turn your data into full-color charts. Run the most elaborate operations automatically with easily created macros. And pipe data or charts into Word documents via Microsoft Excel links.

Microsoft File version 2.0. The most popular general-purpose database is now faster, easier to use, and more capable. File 2.0 comes with more than 100 ready-to-use forms, labels, and reports. And File works smoothly with Word's mail merge feature to make form letters less formal, more personal.

What we left out. The programs we're introducing represent some of the most sophisticated technology available on the Macintosh or any other personal computer. With more capabilities than we can possibly catalog here. When united into one system under Microsoft Mail, our electronic mail program, they become even more formidable.

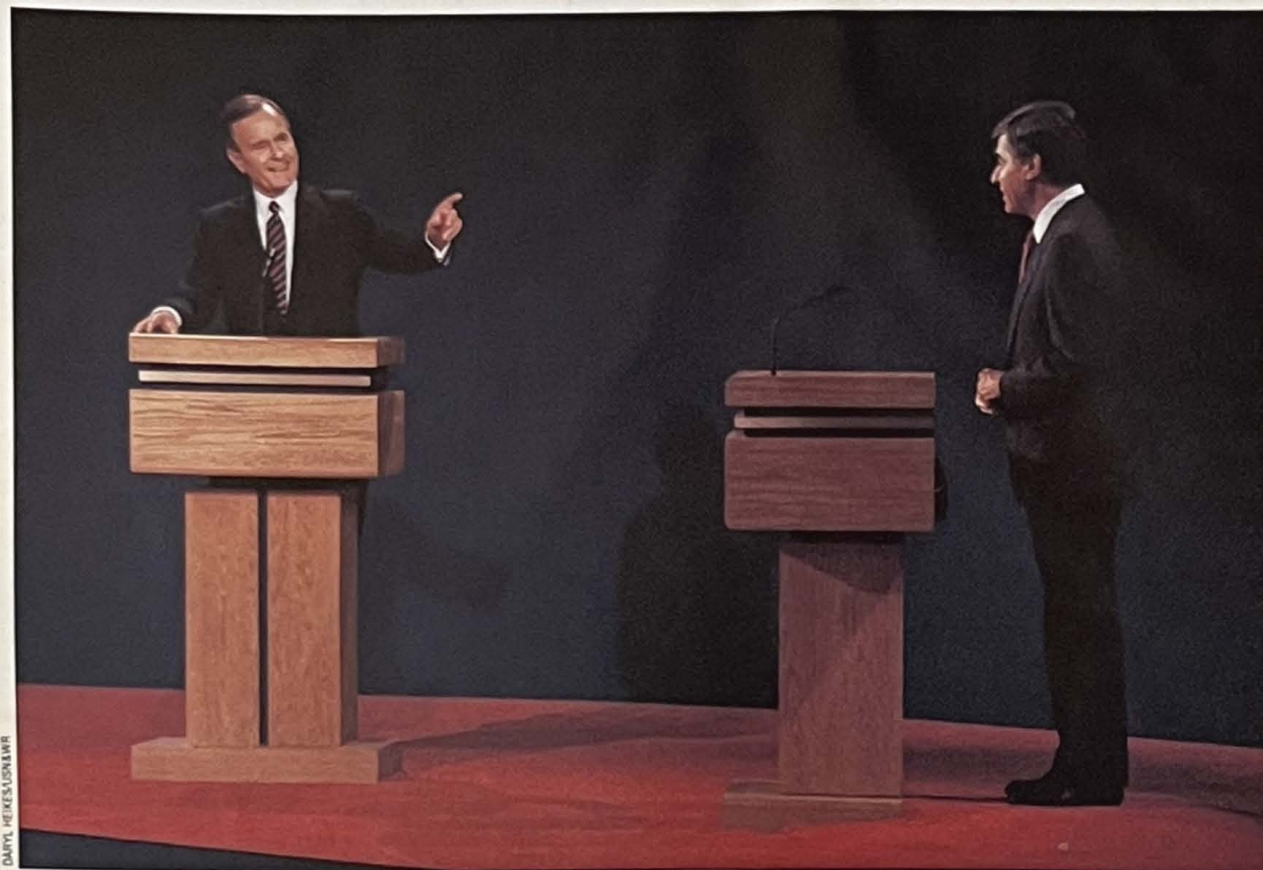
But the best place to demonstrate that beyond reasonable doubt is at a Microsoft dealer. For the nearest one, call 800-541-1261, Dept. I 69. And give us another opening for a conversation.

Microsoft®

© 1988 Microsoft Corporation. Microsoft, the Microsoft logo, and PowerPoint are registered trademarks of Microsoft Corporation. Macintosh is a registered trademark of Apple Computer, Inc.



Candidates vague on high-tech issues



Despite rhetoric supportive of high-tech industry, neither George Bush nor Michael Dukakis has taken a stand on many of the nuts-and-bolts science and technology issues important to the computer industry.



BY ANDREW GOODMAN

SAN FRANCISCO — At the recent Agenda '89 conference in Southern California, personal computer industry analysts and executives responded to a survey by saying that the election of Vice President George Bush as president would bode moderately better for the PC industry than would the election of Massachusetts Gov. Michael Dukakis.

But even at this late date, it is conceivable that many Macintosh users have still not decided which hole to punch when they walk into the ballot box next Tuesday. And if the undecideds are looking to the candidates' stands on high-tech issues to clarify the choice, they may be out of luck.

Both candidates praise high-tech industries, with Bush calling technology "America's economic fountain of youth," but neither of them has publicly explored the nuts and bolts of specific issues like foreign copyright violations or the dynamic RAM shortage. Tom Uhlman, corporate development director of Hewlett-Packard of Palo Alto, Calif., recently lamented to the San Francisco Chronicle that neither campaign "has focused what I believe is sufficient attention on science and technology issues."

A phone call to the respective campaign offices to clarify the candidates' stands on high-tech issues is not likely to help. Take the Export Administration Act, for instance. The act, which is designed to keep U.S. technology away from Warsaw Pact nations, has come under fire in some quarters for keeping U.S. high-tech companies out of non-hostile foreign markets. Should it be repealed? Strengthened? Weakened? The word from both campaigns is "We don't really have anything on that specifically," accompanied by an offer to send the caller a few position papers on "competitiveness" or "trade."

But while neither camp has outlined specific positions on very many high-tech issues, there is enough information in the records and statements of the men who would be president to piece together their stands on subjects of particular interest to the high-tech industry.

Arguably, Dukakis has had more experience working with high-tech companies than has Bush. The Dukakis administration established the Massachusetts Technology Development Corp., a quasi-public venture capital fund designed to assist high-tech start-ups. The MTDC, for example, was the first investor in Cambridge-based Interleaf, an electronic publishing software company. Massachusetts also has four Centers of Excellence in which state government, academia and industry work together to promote development of specific technologies like software or chip making. Dukakis has promised to set up similar centers nationwide if he manages to confound the pollsters and defeat Bush next week.

In a similar vein, Bush has spoken generally about "closer partnerships with government and university labs, so business can better commercialize scientific advances."

Dukakis, who said he believes more strongly than does Bush in an active government role in shaping the economy, has advanced a proposal to take \$500 million in federal money and combine it with private investment to bring high-tech companies to depressed areas of the country as a revitalizing force. Dukakis also has talked about increasing U.S. "competitiveness" by creating government/industry consortiums after the model of Sematech of Austin, Texas, which was formed to strengthen the U.S. hand in the semiconductor industry.

Bush and Dukakis both favor making permanent the tax credit for research and development, a favorite of high-tech companies. The credit was due to expire at the end of this year, but just before adjourning on Oct. 21, Congress approved a one-year extension. John L. Pickitt, president of the Computer and Business Equipment Manufacturers Association of Washington, D.C., has vowed to continue the fight to make the tax credit permanent, calling it "the birthright of the [computer] industry."

On the trade front, both candidates generally have voiced opposition to protectionist measures, with Dukakis offering the possible exception of industries that are trying to modernize and become competitive, like the U.S. steel industry.

Each candidate has vowed to support scientific research. The bulk of the government's \$70 billion

annual R&D budget in a Bush administration would probably go to military research, including the Strategic Defense Initiative, in a continuation of Reagan administration policy. Dukakis has proclaimed that he would cut some \$6 billion from military programs like SDI, the MX missile and the Midgetman missile. "Some portion of that has to be invested, some portion will go into conventional defense, and some portion will be used to reduce the deficit," said Dukakis.

Education is an area of interest to hardware and software manufacturers, and both Bush and Dukakis have declared education to be a high priority. Dukakis has put forward a plan called the Education Security System to help parents pay for their children's college education, while Bush calls his plan, designed to serve the same function, College Savings Bonds. Bush has called for merit pay and special recognition for good teachers, while Dukakis wants to create an educational venture capital fund that would be used to attract good teachers and to improve the skills of current teachers.

For science education specifically, Bush has proposed the establishment of special "schools of excellence" for talented math and science students, while Dukakis has suggested a \$45 million plan to bring scientists and engineers into the classroom. The Dukakis proposal is part of a \$510 million plan to overhaul school science programs and increase training of high-tech workers. Dukakis also wants to double National Science Foundation science and engineering programs that the Reagan administration has moved to eliminate.

While the economy is not strictly a high-tech issue, dollars and cents — or rather dollars and sense — are obviously vital to the industry's well-being. Bush has declared that he will let business be business and will "constantly oppose regulation that stifles competition," although in an apparent contradiction, he has also vowed to enforce strict environmental regulations.

Dukakis, on the other hand, speaks of managing the economy "not with an invisible hand, not with a heavy hand, but with a helping hand." Dukakis has

Continued on Page 32

omniPAGE™

Customer Profile

Danny Goodman

Age: 30 something.
It's hard to tell on guys with beards.

Profession: Author of the all-time best selling book, *The Complete HyperCard Handbook*, and more recently *Danny Goodman's HyperCard Developer's Guide*; software developer (*Business Class* and *Focal Point II*). Described as a genuine "Renaissance Man"!

Hobbies: His idea of a good time is to scan the comprehensive quotes of the great Serbo-Croatian poets while enjoying a good glass of Chenin Blanc. Napa Valley, of course. He prefers non-computer keyboards, like the one on his Bechstein grand piano. A compulsive researcher!

His Page Recognition Software:

OmniPage, of course. According to Danny: "In preparing a book, or working on a special project, I need to get at information quickly to avoid disturbing my work flow. With **OmniPage**, I can scan virtually any font, or font size, in any column format, and easily place it into an existing file. I'm building a library of articles, relevant to my work, on a variety of subjects."

Favorite Quote: From the *New York Times*: "OmniPage has the potential to do for scanners what the Lotus 1-2-3 spreadsheet did for the sale of PC's."

Things Disliked Most: "Neil Simon plays done by actors from California and guys who claim to have met with beings from other planets. Most of whom also happen to come from California. No seriously, what upsets me most is some of the over-promising in this industry, especially when it comes to page recognition software."

Favorite Scan: "I'm working on a library of articles from magazines and professional journals. You might call it the ultimate scan. I want to develop a HyperCard front end, and tie it all back to *Focal Point II*, which is really the center of my computing universe."

Future of Page Recognition: "I hate to type, that's why I develop HyperCard products that type for themselves. **OmniPage** helps to eliminate excessive key strokes. I can relate to that. How else does my publisher expect me to get a book out in a matter of months? Being able to cut and paste between vast libraries of data, extrapolating ideas, is the very essence of page recognition. With **OmniPage's** versatility we're not just managing pages any longer, but entire blocks of thought. It's a product that delivers on the promise of the future—finally."



For More Information Write: Caere Corporation 100 Cooper Court Los Gatos, CA 95030
Or Call: 1-800-535-SCAN

OmniPage is a registered trademark of Caere Corporation. Business Class, Focal Point and Focal Point II are trademarks of MEDIAGENIC. The Complete HyperCard Handbook and Danny Goodman's HyperCard Developer's Guide published by Bantam Books, all rights reserved. Special thanks to Danny Goodman and The Half Moon Bay Polo Club, for letting us talk to him. ©1988 Caere Corporation.

CAERE®

IN PROFILE/BUSH AND DUKAKIS

Continued from Page 32

come out for increased antitrust enforcement, but Joe Henson, chairman of Prime Computer of Natick, Mass., and a Dukakis adviser, is talking about revamping the Sherman Antitrust Act to make U.S. companies more competitive with Japan.

Although Dukakis has said that he plans to improve the economy's performance by building cooperation with business through negotiation and government incentives, he may be stymied by his calls for environmental regulation, stepped-up antitrust enforcement and required health insurance for employees, all of which are viewed suspiciously by much of the business community.

Taxes are also generally viewed with suspicion in the business community, and Bush has promised not to raise taxes. "Read my lips," the vice president has said. "I won't raise your taxes, period." Bush has called for a reduction of the capital gains tax from the current 28 percent to 15 percent.

Dukakis strongly opposes such a cut, and in considering what last-resort tax to employ in the unlikely event that the last resort ever really became the last resort, some Dukakis advisers favor a tax on consumption, like a sales tax or the increasingly popular value-added tax that would be paid a little bit at each step from manufacture to market. But Dukakis has said that he opposes

consumption taxes because they unfairly burden the poorer segments of society. Instead he has called for increased tax enforcement, which he instituted in Massachusetts. But even Nobel prize-winning economist Robert Solow, a Dukakis supporter, admits that while a national tax collection program can work, it is not a solution to the budget deficit.

And it is precisely the deficit that placed first in a recent Fortune magazine poll of corporate CEOs, who were asked to rank election issues in order of importance. James Rollwagon, CEO of Cray Research of Minneapolis, told the magazine: "If we continue on this path, an economic crash is coming. The

Japanese could refuse to finance our debt."

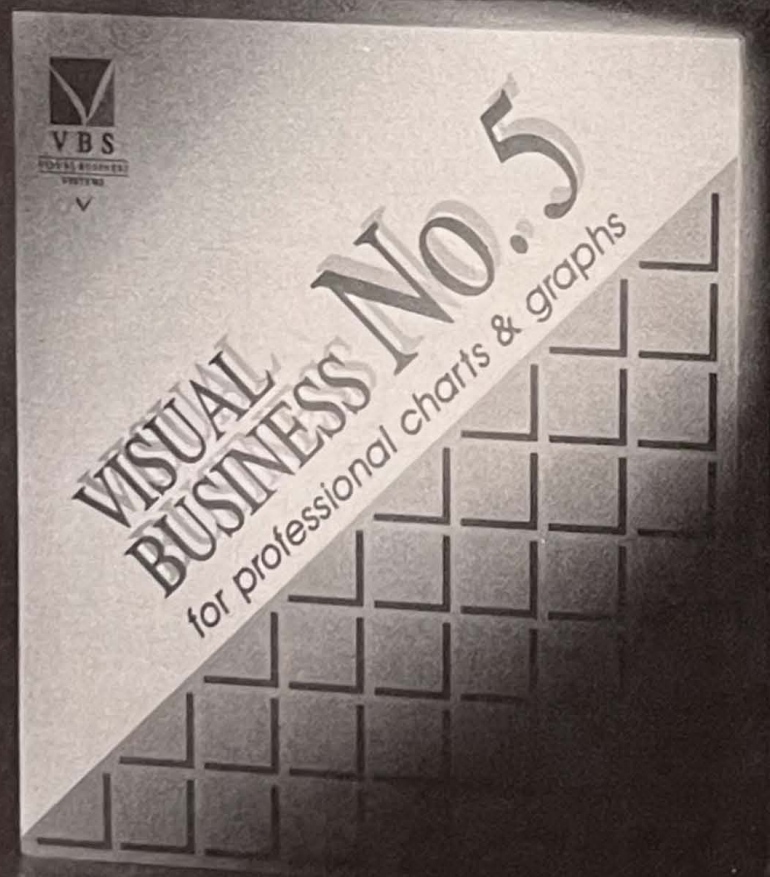
Both Dukakis and Bush will need economic steroids to bring down the deficit with their current proposals. While reluctant to talk about new taxes, they have each exempted about half of all federal spending from being cut.

The lack of clear positions on the deficit mirrors the candidates' fuzziness on high-tech issues. As Robert Park, the director of the Washington office of the American Physical Society, said recently to the San Francisco Chronicle: "We get frustrated. When the opportunity arises to say something meaningful [about science and technology], they drop the ball." □

Announcing

A new level of professionalism for Macintosh II
Charts & Graphs—for the professional presenter.

**FREE
DEMO
DISK**



Visual Business No. 5 software lets you quickly create colorful 2 dimensional and true 3 dimensional charts and graphs, complete with a variety of "air brush" backgrounds and crisp text styles. Ease of use is accomplished with pull down menu and directional windows to guide and help you do what you want to do.

Exclusive Rasterizer is a universal interface that lets you output to any film recorder for slides and color printers for hardcopies. The cost-reducing and trouble-eliminating features of the rasterizer can be used by central graphic departments as well as others in the company to produce boardroom quality presentations.



VBS
VISUAL BUSINESS SYSTEMS
700 Lake Street, Suite H
Ramsey, New Jersey 07446
Tel. 201-327-2526 • FAX: 201-327-0355

Yes, I would like to be one of the first five-hundred to receive your **Visual Business No. 5** software demonstration disk for the Macintosh II and appropriate information at no cost obligation.

Name _____ Title _____

Company _____

Address _____

City _____ State _____ Zip _____

High-tech puts money on Bush

The Federal Election Commission's figures on primary contributions reveal that companies in the computer and electronics industries donated more money to George Bush than to Michael Dukakis during the primary season. (Since both candidates accepted federal funding for the general election, no corporate donations were allowed after the primaries.)

Stacked on Bush's side were a number of telecommunications political action committees representing companies from AT&T (\$1,000) to Southwestern Bell (\$4,000). Bush also got a tip of the coin-filled hat from American Information Technologies Corp. (\$5,000), the Computer Dealers and Lessors Association (\$1,000) and the employee PAC of Motorola Inc. (\$5,000), among others. As one might expect, arms manufacturers such as Morton Thiokol (\$1,000) and Hughes Aircraft (\$5,000), companies whose purchases of computer equipment and components drove Silicon Valley's expansion during the Reagan years, also voted with their dollars to give the vice president a promotion.

Michael Dukakis raised virtually no high-tech money during the primary election, in part because contributions to Democratic Party candidates were divided among so many contenders. In fact, despite the governor's reputation as a technocrat, Michigan Bell, with a small \$120 gift, was the only high-tech contributor to Dukakis listed in the documents MacWEEK received from the FEC.

Silicon Valley's pre-eminent industry organization, the American Electronics Association of Palo Alto, Calif., has a PAC with a \$60,000 purse, but it is prevented by its bylaws from contributing to presidential candidates. Apple, according to spokeswoman Carleen LeVasseur, "has donated no money to either party."

Despite election finance disclosure laws, it will be difficult to find out whose pockets were lined — and by whom — until the election is over. Corporate PACs can give to state committees, which then pass the cash along to the national effort, or companies can quietly lend equipment or personnel to assist in the campaign effort. It is widely believed that corporate executives often reach the campaign contribution limit as individuals and sometimes funnel even more money to a campaign under the names of family members or employees. — *By Mitzi Waltz*



*** Limited time special offer!**
Up to \$300 cash for your old hard disk drive when you purchase a DPI 44R.

\$1595

**DPI 44
Removable**

25ms, 10
Megabits/Sec. data
transfer rate, shock
resistant to 30Gs.

\$499

**DPI 20
External**

65ms, 7.5
Megabits/Sec. data
transfer rate, shock
resistant to 50Gs.

\$799

**DPI 60
External**

48ms, 7.5
Megabits/Sec. data
transfer rate, shock
resistant to 50Gs.

\$1249

**DPI 100
External**

28ms, 10
Megabits/Sec. data
transfer rate, shock
resistant to 50Gs.

\$1399

**DPI 144
External**

28ms, 10
Megabits/Sec. data
transfer rate, shock
resistant to 50Gs.

\$1099

**DPI 100 II
Internal**

28 ms, 10
Megabits/Sec. data
transfer rate, shock
resistant to 50Gs.

\$1249

**DPI 144 II
Internal**

28ms, 10
Megabits/Sec. data
transfer rate, shock
resistant to 50Gs.

Unlimited capacity on a fixed budget.

Our 44MB removable hard disk drive is not only fast (25ms average access time), it's also extremely flexible. With the removable Data Cartridge, you're assured flexibility, portability, security, and an unlimited amount of storage space.

Application specific.

The DPI 44 removable is designed with the demanding user in mind. Whether you're working with spreadsheets, desktop publishing, graphics, or multiple data bases, the 44R has both the speed, and unlimited storage capacity.

Goes anywhere.

Whether you need to take information with you, or send it by courier, the removable Data Cartridge is ideal. Rugged (tested to 30G's), and lightweight enough you won't lose time and money shipping cross-country.

Complete data security.

What could be safer than being able to take your data with you? No more unauthorized access by outside system users. The cartridge is small enough to fit inside any safe, briefcase, or desk drawer.

Unlimited storage.

You simply need to buy additional cartridges. The storage possibilities are endless. You could back-up your hard disk drives in less time than conventional tape drives, and without the possibility of data loss due to tape-stretch.

**** Limited time special offer!***

With the purchase of a DPI 44R, you have the opportunity to trade-in your existing hard drive for cash.. Yes, we'll buy your old hard disks, working or not. You could earn up to \$300 cash depending on the drive you trade in. Call for details on how you qualify to save big bucks.

A family tradition.

In addition to our DPI 44R, we also manufacture both Internal and External hard disks. From our Internal 100 and 144MB, to our External 20, 60, 100, and 144MB drives, you can count on DPI's service and guarantee. A full 30 day money-back and one year on both parts and labor. No matter what the reason, DPI will repair or replace your drive, absolutely free! What are you waiting for? Add a DPI hard drive to your system today and come out of the dark ages.



40 Corning Avenue, Milpitas, Ca 95035

408/945-1850 800/825-1850



Prices quoted are for cash purchases. California residents add 7% sales tax. Price does not include system cable or daisy chaining cable nor shipping. DPI 44 Removable, 20, 60, 100, 144, 100 II, and 144 II are trademarks of DPI. Macintosh is a registered trademark of Apple Computer. Prices subject to change without notice. © Copyright DPI 1988.

Work-place safety on California ballot



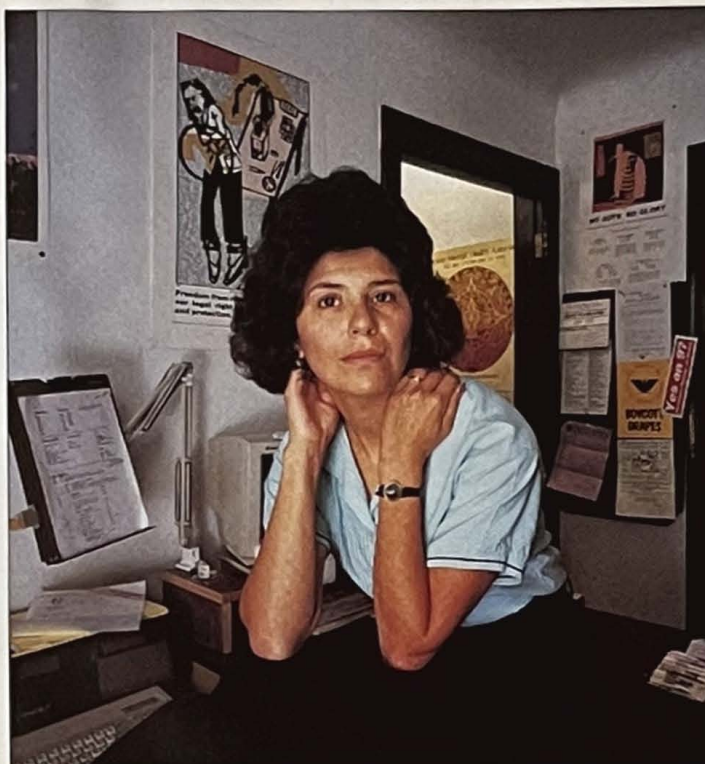
BY REESE ERLICH, EDWARD GINSBERG AND SUSAN GINSBERG

SAN FRANCISCO — Managers in Silicon Valley will be watching carefully next week as Californians vote on Proposition 97, which would restore a controversial state work-place safety program.

At issue is the California Occupational Safety and Health Administration (Cal-OSHA), which Gov. George Deukmejian eliminated for the private sector in June 1987 in a move that he said would save the state \$7 million annually. Responsibility for employee safety in California then shifted to the federal Occupational Safety and Health Administration (Fed OSHA), which has less-stringent regulations. Although both Cal-OSHA and Fed OSHA have standards for permissible exposure levels for approximately 450 industrial chemicals, Fed OSHA has not updated its regulations since 1968.

Twenty-five states and territories have their own OSHA programs, and California is the only one to have eliminated its program since 1980. Other states periodically consider dropping their programs, said Fed OSHA spokesman Terry Mikelson. But, Mikelson added, the other states are likely to be further dissuaded from dropping their programs in the future if Californians vote on Nov. 8 to restore Cal-OSHA.

Interviews with Silicon Valley corporate safety



Alicia Orosco of Injured Workers United: "We've got to fight to make Cal-OSHA strong like it once was. ... There's got to be inspectors out there right away."

directors revealed nearly unanimous support for the restoration of Cal-OSHA, although most companies have taken no formal position on the ballot initiative. Apple is remaining officially neutral, but Brian Rauschuber, head of safety at the company's Fremont, Calif., assembly plant, echoed statements by other companies when he noted that Apple will continue to run a safe operation regardless of changes in the law. "The elimination of Cal-OSHA has had no effect" on Apple's policies, said Rauschuber. "Apple has always exceeded California [safety] standards."

Electronics industry supporters of Proposition 97 have been joined by labor unions, the American Cancer Society, the League of Women Voters, the California Medical Association, the Sierra Club, the American Lung Association of California, construction industry groups and the Reagan administration in the desire to overturn Gov. Deukmejian's elimination of Cal-OSHA.

The ballot initiative does have its detractors in the business community. It has been publicly opposed by the California Chamber of Commerce, with spokesman Jim DuFour saying that his group "supports the governor's fiscally responsible measures" in cutting Cal-OSHA. "Federal OSHA will provide the same level of protection without costing California taxpayers anything," he added.

Tim Shanon, chief lobbyist for the California Manufacturers Association (CMA), said his group has not taken a position on the initiative. Shanon said that some CMA member companies oppose Cal-OSHA because the inspectors "paid too much attention to penny-ante violations," adding that some employers resent Cal-OSHA's more stringent on-site inspections and prefer Fed OSHA's paper review of their safety programs.

California established its original work-place safety agency in 1913. After its creation in 1973, Cal-OSHA set safety standards for work places and carried out on-site inspections. In the electronics industry, for example, the agency regulated acceptable levels of toxic chemical exposure.

"Cal-OSHA was considered an asset," said Lee Neal, director of safety and health for the Cupertino, Calif.-based Semiconductor Industry Association. "We used the agency's consulting services quite a bit" to improve work-place safety, he added.

"Speaking for Signetics," said Jim Davison, the Sunnyvale, Calif.-based chip maker's corporate manager for environmental affairs, "we'd prefer [to] go back under Cal-OSHA. When things are going well, you don't really want to upset the apple cart."

Industrial safety directors at Siliconix of Santa Clara, Calif.; LSI Logic of Milpitas, Calif.; numerous other companies; and the Semiconductor Industry Association echoed Davison's opinion. They expressed concern that Fed OSHA's less-stringent inspection standards will mean a lower regulatory presence in the industry, which could

lead to increased workers' compensation insurance costs and more third-party lawsuits in the long term.

Some noted that the larger electronics companies have sophisticated safety programs, but that smaller companies are more likely to let safety concerns slide, thus hurting the industry as a whole. One safety director at a major Silicon Valley semiconductor company, who asked to remain anonymous, said, "We can live with more stringent enforcement, so we don't mind Cal-OSHA." But without Cal-OSHA, he said, "the safety standards for toxic chemicals at smaller companies would slip quite a bit." Fed OSHA wouldn't catch the problems because "its investigators haven't built up expertise."

Chuck Mitchell, who oversees health and safety for the workers' compensation insurance company C.E. Heath of San Francisco, explained the difference between Cal-OSHA and the agency's federal counterpart. Fed OSHA inspectors, he said, recently investigated an alleged toxic chemical exposure at a Silicon Valley company. They met with the safety director, went over the company's safety plan on paper, briefly visited the exposure site and then left, in what Mitchell said was "only a paper shuffle. The company executive implied that he could have sent up a smoke screen and Fed OSHA would have never known."

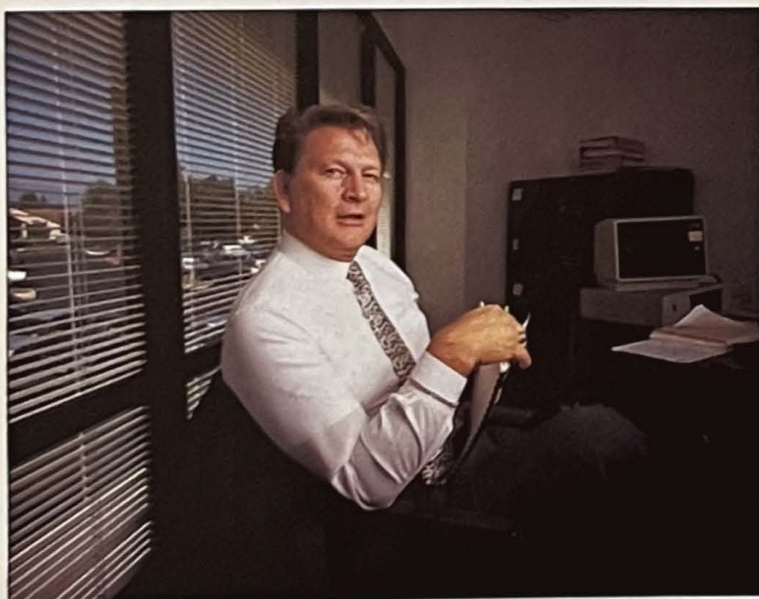
That kind of inspection is all too familiar to members of Injured Workers United, a group composed of mainly electronics industry workers, many of whom were injured due to overexposure to chemicals. For the past five years, group members have lobbied in the state capital of Sacramento, publicized hazardous conditions in Silicon Valley and helped establish an occupational health clinic in San Jose, Calif.

Federal OSHA officials have said that the agency will soon adopt stricter standards, but Injured Workers United representatives said they believe that the new regulations will still be inadequate. "We've got to fight to make Cal-OSHA strong like it once was," said Alicia Orosco of Injured Workers United.

A recent California poll showed Proposition 97 winning by a 58 percent to 24 percent margin. If the initiative passes, said Orosco, its supporters will "pressure the politicians to bring it back immediately. There's got to be inspectors out there right away."

But there could be delays bringing the agency back on line, because the state must hire replacement inspectors through the cumbersome civil service system. In addition, the Deukmejian administration may not be anxious to immediately restore Cal-OSHA. Ron Rinaldi, director of the department of industrial relations, which oversees Cal-OSHA, said his department may wait until the completion of the budget process in July 1989 before trying to restart the program.

If Proposition 97 loses, the California Supreme Court will determine the future of Cal-OSHA, virtually ensuring that the battle over Cal-OSHA and work-place safety in California would continue for some time. □



Lee Neal of the Semiconductor Industry Association: "Cal-OSHA was considered an asset. We used it quite a bit."

DISK-DRIVE PERFORMANCE BOOSTERS

TurboCache TurboOptimizer Disk-drive Accelerator Software



Faster drive performance. Improved personal productivity. TurboCache™ and TurboOptimizer™ software from PLI boost the performance of any disk drive.

How? By combining their *disk-drive accelerator* power. They are new offerings from PLI in its TurboWare™ line of powerful utility software for drives.

TurboCache exploits available system memory to shortcut performance bottlenecks at your disk. And TurboOptimizer reorganizes the data on your disk to speed up access.

PLI's disk-drive accelerator software lets the typical user achieve much faster effective average access times.

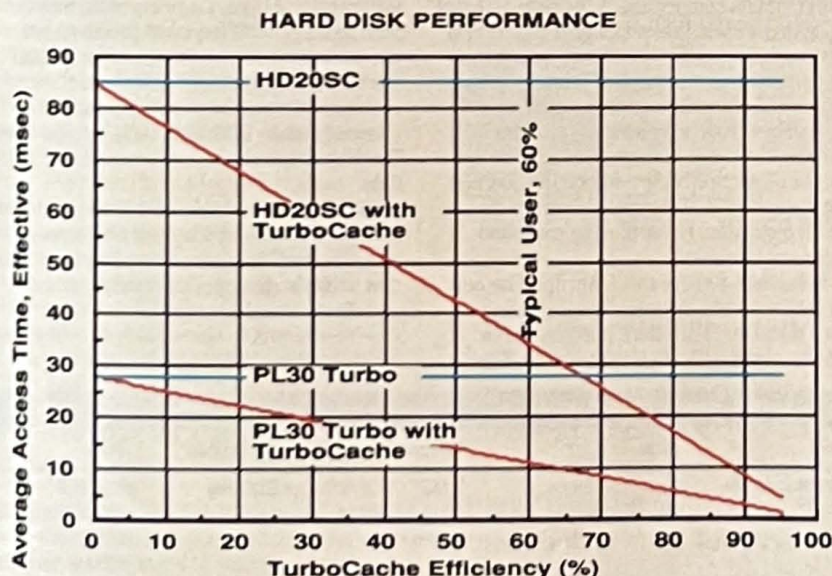
TurboCache is a sophisticated cache system that dynamically uses memory to automatically load files and applications. Then it lets you recall them with lightning-fast speed. As the memory needed to run applications changes, you can shrink and expand TurboCache. It exploits unused memory so you no longer need to wait...and wait...and wait.

TurboOptimizer is a powerful software tool that moves all parts of a fragmented file back together, to minimize drive head movement and thus speed up disk access. It optimizes fragmented files quickly, and is easy to use as well. It can be run from the disk it is optimizing or another disk, and also searches for hard-disk errors.

TurboWare software is another performance-boosting product line from PLI, one of the leading and oldest manufacturers of hard-disk drives for the Macintosh™. With this and all PLI products, you also get a level of technical support and service that is the envy of the industry. Just ask any current PLI product user.

Ask your dealer for a demonstration of TurboWare software from PLI. You'll be amazed at the performance boost you'll see.

For more information and the dealer nearest you, write or call PLI today.



800-288-8754

Peripheral Land, Inc.
47800 Westinghouse Drive
Fremont, California 94538
AppleLink D0495 • FAX (415) 683-9713
Telephone (415) 657-2211

PLI, TurboWare, TurboCache and TurboOptimizer are trademarks of Peripheral Land, Inc. Macintosh is a trademark of Apple Computer, Incorporated.

PLI

Phototypesetting comes to the desktop

New competition has arrived in the mid-level printing market.



The IGX 7000PS from Itek can print directly onto printing plates. It has a fast RIP based on Weitek RISC chips.

BY LASLO VESPREMI

The desktop is getting crowded. We've got desktop publishing, desktop presentation, desktop video and now, believe it or not, desktop phototypesetting.

At least five companies — Monotype Inc. of Elk Grove, Ill.; Varityper of East Hanover, N.J.; Birmy Graphics of Miami; Itek Graphix Corp. of Nashua, N.H.; and Compugraphic Corp. of Wilmington, Mass. — have announced low-priced phototypesetters that will output PostScript files. In fact, Itek's IGX 7000PS is already shipping. These seek to carve out a territory for themselves in the mid-level printing market, competing directly with Hauppauge, N.Y.-based Linotype's Linotronic series.

To the graphic arts community, this means more options to choose from, which creates competition and, thus, lower prices. At this fall's Seybold Desktop Publishing conference in Santa Clara, Calif., for example, Linotype tried to steal the thunder from its would-be competitors by announcing the L200, a 1,693-dpi typesetter with a price tag of \$34,950. That's about \$30,000 less than Linotype's own L300. The L300 can create pages with a resolution of 2,540 dpi, but 1,693 dpi is adequate for all but the most high-end black-and-white printing jobs and for some color work. The text of MacWEEK, for example, is printed from 1,270-dpi output.

In this article we'll compare the L200 with Itek's IGX 7000PS and Compugraphic's CG 9400-PS. Both sell for \$39,995, not much more than the L200. As a result, other features, like size, speed, resolution and customer support, will be equally important factors for buyers.

And there are major differences in these areas (see chart below). For example, the Linotronic series of typesetters, including the L200, are floor-standing models the size of a filing cabinet. Both the Itek IGX 7000PS and the Compugraphic CG 9400-PS, which comes with a custom table, are truly desktop machines, slightly larger than the average laser printer.

Configurations also differ. Compugraphic, a company known mainly for its turnkey publishing systems using its own generic computers, has now made a product that is compatible with other manufacturers' workstations. The introduction of its CG 9400-PS model, which is expected to ship in the first quarter of 1989, illustrates Compugraphic's new willingness to sell components, in this case a typesetter for use with any device that can generate PostScript files.

Compugraphic's CG 9400-PS comes with an external raster image processor that uses Adobe's 68020-based Atlas processor. It has 6 Mbytes of RAM and an 80-Mbyte hard disk. (Another version of the CG 9400 is available that uses Compugraphic's own Genics external image-control system, which can also accept PostScript files but doesn't create PostScript output.) Seventy-three Adobe fonts are included, and many more are available from Compugraphic's own font library.

The machine can create film or photo-paper output at a user-selectable resolution of either 1,200 or 2,400 dpi. It can use any brand of infrared film to print at page sizes up to 78 picas (13 inches).

According to its specifications, the Itek IGX 7000PS phototypesetter should be the fastest of the three. Its standard

configuration includes 8 Mbytes of RAM, and an optional 80-Mbyte SCSI hard disk is available for an additional \$3,995. The RIP, built by Itek and Raster Image Processing Systems Inc. (RIPS) of Boulder, Colo., features two advanced Weitek RISC (reduced instruction set computing) chips that boost performance. The printer can also be paired with a non-PostScript RIP, lowering the cost to \$32,995.

Itek claims that its RIP can run circles around the competition, but it is difficult to compare phototype-setting speeds. "There are dramatic differences," said John Campochiaro, output devices marketing manager for Compugraphic. "If you're doing a complex font with halftones, printing could take half an hour — or even an hour." For all three machines, speed will be based on a combination of RIP configuration, engine speed, resolution chosen and the complexity of the page being processed.

The major difference between the Itek printer and its competitors is the type of imaging device it uses. While Linotype's L200 and Compugraphic's CG 9400-PS use laser beams to imprint the pages, the Itek printer works with an LED array to create the characters. According to Itek product manager Tim Cloonan, the major advantage of an LED system is its lower price. In addition, he claimed that the use of LED technology means "less optical distortion, fewer moving parts and easier maintenance."

Itek offers 800 dpi and 1,600 dpi. The output can be on any infrared film (including Itek's own DIGITEK film), photo paper or printing plates up to 13.5 inches wide. The

printer comes with a set of 35 fonts and could work with others, including fonts from Bitstream Inc.

Although Itek has been shipping the IGX 7000PS for only a few weeks, the company has a long history in the graphic arts field as a producer of photostat cameras.

Cloonan said that the Itek system can handle most color separations and 133-line screens. Linotype maintains that 120-line screens should not create a problem for its L200. However, none of the three printers are precise enough to handle high-quality color separations or halftones. According to Compugraphic's Campochiaro, the problem is that

More competition means more options to choose from in phototypesetters.

the media hasn't caught up with the technology. "The film itself can't accept the resolution," he said, a problem that forces users of these mid-level machines to print halftones at lower resolutions to keep the range of grays.

Product support is an important issue for users, and here, Compugraphic may have an advantage. "We have 400 service representatives nationwide, or five times more than our nearest competitor," said Gene Hunt, manager of marketing communications at Compugraphic. Both Itek and Linotype have fewer than 100 service representatives in the field.

Graphic artists and publishers should be pleased with this new crop of phototypesetters. They will bring a new sense of competition to this segment of the market, and the customer should benefit. □

Mitzi Waltz contributed to this report.



Compugraphic's large service network is a major plus for buyers of its CG 9400-PS phototypesetter.

A FEATURE GUIDE FOR BUYERS				
Model	Size	RIP configuration	Resolution	Price
Linotronic L200	Floor standing:	3 MB	635/846/	\$34,950
	24.5x23.5x31"	20 or 80 MB hard disk	1,270/1,693 dpi	(80 MB hard disk) \$28,950 (20 MB hard disk)
Compugraphic CG 9400-PS	Desktop: printer-29x22x36" RIP-22x6x17"	6 MB 80 MB hard disk	1,200/2,400 dpi	\$39,995
Itek IGX 7000PS	Desktop: printer-24x12x14" RIP-7x12x16"	8 MB (optional 80 MB hard disk)	800/1,600 dpi	\$39,995 (add \$3,995 for hard disk)

BOLDFACE

Enough already!

BY EZRA SHAPIRO

This is an open letter to Aldus, Adobe, Apple, Letraset, Microsoft, Claris and the rest of you: Stop. Knock it off. Quit trying so hard to force us peasants to become graphic designers in everything we do. Our business correspondence is perfectly readable when we type it on typewriters or print it with daisywheels. Our interoffice memos don't need to be typeset in Avant Garde and Palatino. We can communicate with one another just fine without using fancy logos and three-column newsletter formats on every scrap of paper we generate.

I understand that you're selling sophisticated design and output technology, so you're trying to show us what can be done with it. And that you feel everything you produce has to look as good as possible, if only to demonstrate the capabilities of your products. You all want to convince us to become design-conscious desktop publishers, and you think you have to set an example. In some ways, you seem embarked upon a holy mission to spread the gospel of graphic design.

Like all crusades, yours has an inherent blind spot: Not everyone needs or wants to be an artist. And few can live up to the expectations implied by your beautiful materials. You're working us into a panic over desktop publishing, and we're becoming frustrated. First with ourselves, because we're unable to do what you showed us we could do, and ultimately with you, because your tools are not as effective as we believed they would be.

You see, you're sending us the wrong message. You don't really want us to become better designers, you want us to become better communicators, of which design and desktop publishing are only small parts. In some cases, that means steering some of us away from your products when we're not ready for them. Good salespeople know that they're in business to serve their clients, not to sell products. If you prove that you care about us rather than lining your own pockets with profits, we will become your loyal customers for years.

At this point, I expect you to throw up your hands and say, "But we're only the toolmakers. What does he expect us to do?" Simple. Beware the sin of pride. Stop bragging about which big-name artists used your products to develop award-winning projects. Quit sending us those over-designed newsletters printed in gray ink on purple paper. Back away from manuals and advertisements laid out in that trendy, ubiquitous, high-tech, annual report style. Give us real-world examples instead. Encourage us to find easy, elegant solutions to graphics problems by being moderate yourselves. Apply the golden rule of graphics to your own materials: Content is more important than design. Put another way, if your audience notices the design of a piece before they absorb the message, the design has failed.

Desktop publishing is a brilliant strategy for a great many tasks, but overkill for others. Please do us a favor: Teach us when and how to use it wisely. Don't spoil a good thing by demanding that we use it to excess.

Thanks. □

To reach us with tips, comments, disagreements or fabulous Mac art, please send MCI Mail to GRAPHICARTS or write to Graphic Arts c/o MacWEEK, 525 Brannan St., San Francisco, Calif. 94107.

FreeHand Autotrace function improved

The MacWEEK GA staff often receives responses from vendors who like or dislike our views. Aldus Corp. recently wrote with regard to our article comparing the autotrace features of four software packages (see MacWEEK, Sept. 20). According to tests done at MacWEEK, the Autotrace function in the beta version of Aldus FreeHand 2.0 did not perform well. Aldus asked us to send it the same template we used for our tests.

Aldus soon sent back a package with its own samples of our template done using vari-

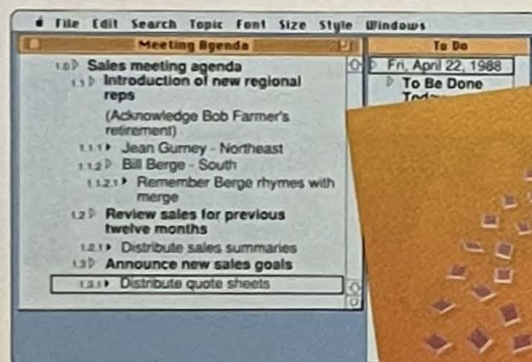
ous Autotrace settings, all of them looking about the same as the ones we produced for the original article. The company also enclosed the new, updated beta intended to address the problems we — and it — encountered with the old version.

"You brought it to our attention, we listened and a change was made," wrote Mary Hausladen, Aldus FreeHand product manager. "We think you'll be much happier with the results of the enclosed beta." Indeed we are, and we think users will be too. □

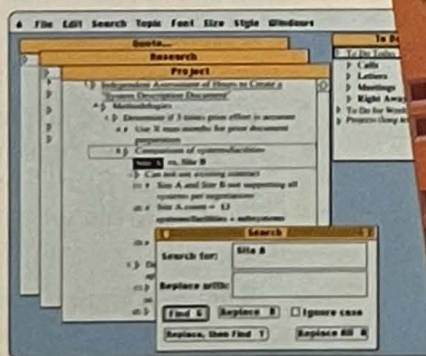


When GA talked, Aldus listened: Here is the result of using the new, improved version of Aldus FreeHand's Autotrace function.

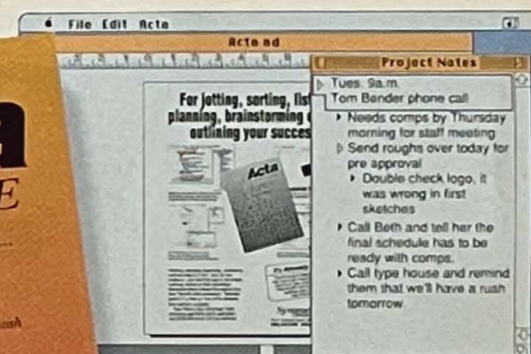
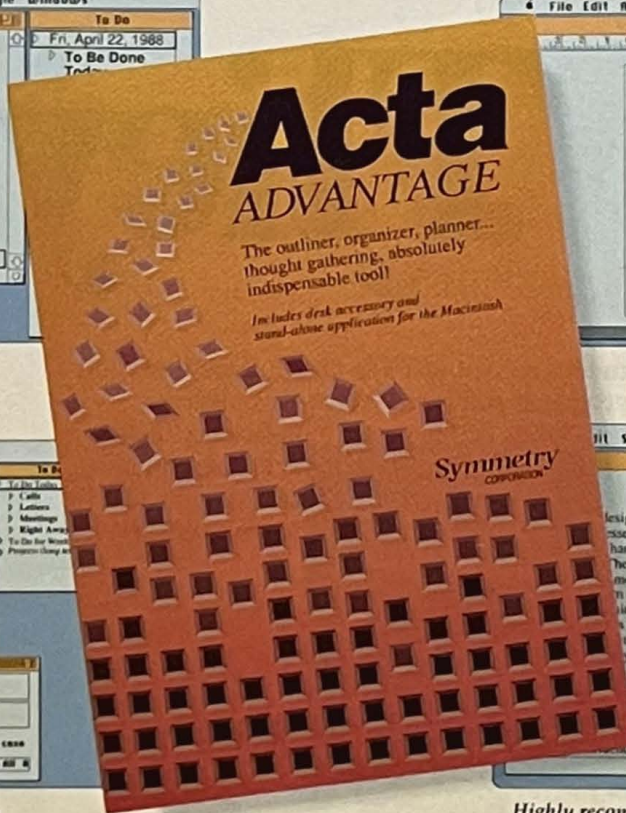
For jotting, sorting, listing, planning, brainstorming or just outlining your success.



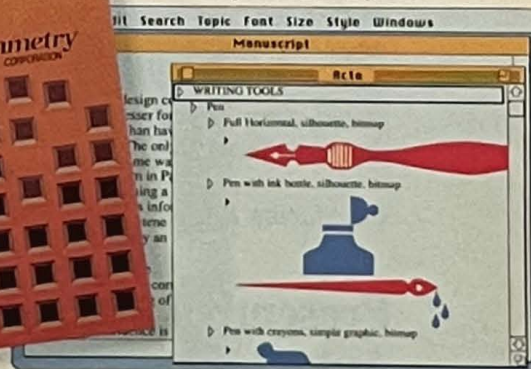
Enter words or pictures as mother-daughter topics. Drag to arrange or rearrange.



Sort, find/replace, mix fonts within topics, page breaking, page preview, print to disk, save/open various file formats.



Use the Acta desk accessory anytime or switch to the application (they use the same files!).



Highly recommended for preliminary writing, presentation planning, name/address files, simple databases, any type of organizing.

It's Amnesty Time!

If you're using an illegitimate copy of Acta, here's your chance to come clean. Send us an Acta screen dump and a check for \$50, and we'll send you a legitimate copy of the new Acta Advantage.

Symmetry
CORPORATION

761 E. University Drive • Mesa, AZ • 85203
(800) 624-2485 (602) 844-2199

Thinking, planning, organizing...success is built one step at a time. And, for any endeavor, your best first step is the simple outlining method of Acta Advantage. Macworld editors named the original Acta their "favorite desk accessory." MacUser gave it 4½ mice as "one of the absolute best outliners available."

Now there's Acta Advantage, desk accessory and stand-alone application. Just \$129 wherever you buy software.



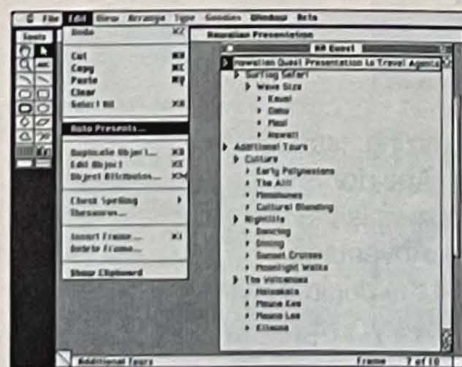
They all have

Conventional wisdom tells us that just like shoes, there's no such thing as one-size-fits-all software. People have distinct workstyles, and varying levels of Macintosh® proficiency. And when you take into account the many types who create presentations, from executives to educators, artists to accountants, it would seem impossible to find a desktop presentation package that suits them all.

Introducing Presentivity.

Presentivity means presentations—Automatically!

Everyone wants their software to be easy to use. Cricket Presents 2.0 goes one step beyond. Our new AutoPresents features actually produces your presentation for you! Simply create an outline, select a frame style and AutoPresents does all the work. If you can use a keyboard, you can create professional-looking presentations fast!



The power to please...

...even the most avid users! For example, Cricket Presents' text processor is the best in the business. It's equipped complete with

an on-board 220,000 word spell checker and thesaurus, automatic and manual kerning, and superb formatting capabilities. In fact, it's so good, you might think you're using a full-fledged word processor.

Create a lot of graphs and tables? Special graphing and tabling tools are built right in. And you can import data directly from Microsoft® Excel™ or any other spreadsheet program that uses the SYLK file format.

Want to add a professional touch? You don't have to be a professional artist. Cricket Presents' high-performance color blending feature lets anyone (no matter what their artistic acumen) create dazzling backgrounds for their slides. An extensive template library (created by a team of presentation pros) makes selection of color schemes and frame styles totally automatic.



But if you are an artist...

...you'll really appreciate our wide variety of drawing tools and precision alignment and layout features. With Cricket Presents 2.0, you can create presentations comparable to those done on console-style computers costing hundreds of thousands of dollars.



Presentivity.

Sleep easier

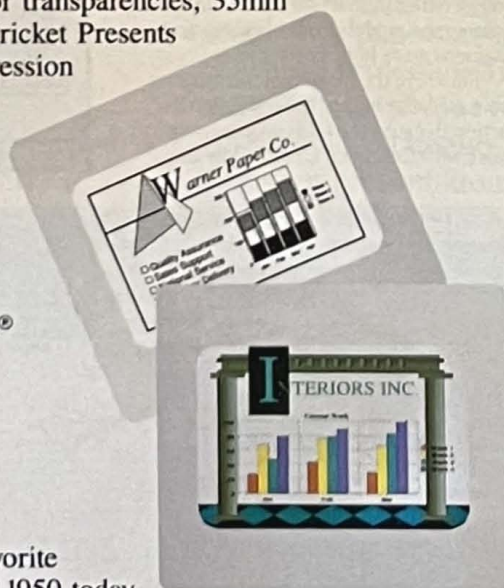
Tired of the frenzy associated with creating a presentation, the last minute changes and hefty rush charges? With Presentivity you can sleep easy. Cricket Presents 2.0 is so versatile, yet so easy to use, everyone involved with presentations can save significant time and money. And that means greater productivity and better profitability.

And now, a word about output

Black and white overheads, color transparencies, 35mm slides, you can have them all. Cricket Presents 2.0 includes a free Cricket Expression driver for the Autographix™ Overnight Slide Service. Plus, you can get spectacular high-quality output from a variety of Cricket Expression-compatible film recorders and printers. Cricket Presents 2.0 also supports all standard Apple® QuickDraw Devices.

Put your best foot forward

Want Presentivity? Visit your favorite software dealer or call (215) 889-1950 today.

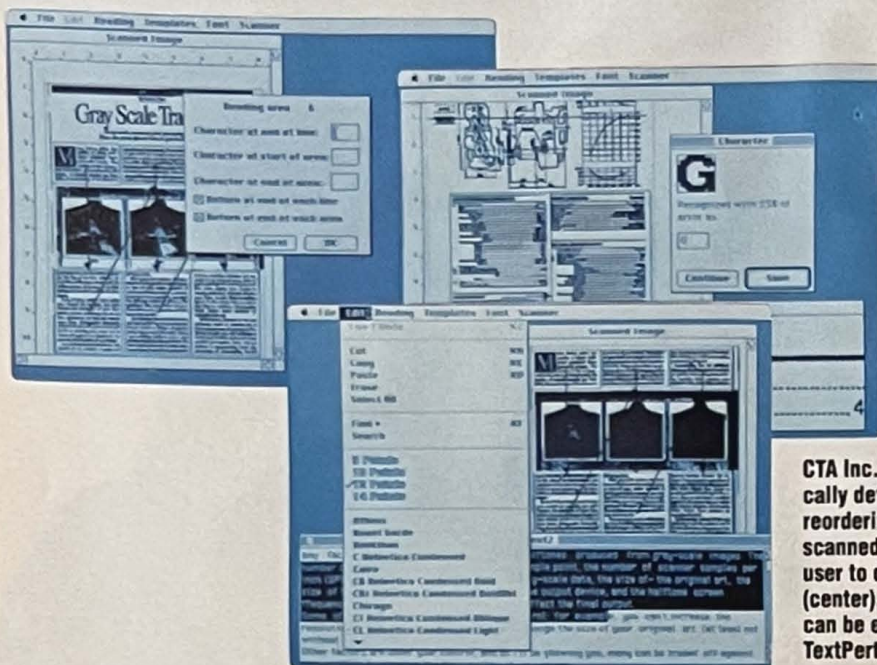


cricket
software

**The Leader In Graphics
Productivity Software**

Great Valley Corporate Center
40 Valley Stream Parkway
Malvern, PA 19355

Keeping scanners in character



CTA Inc.'s TextPert provides the ability to automatically define columns and gives users the option of reordering or redefining the manner in which the scanned text is read (far left). This allows the user to download material into database programs (center). After the reading phase, blocks of text can be edited and font size and type altered within TextPert (bottom screen).

By Steve Rosenthal

Breakthroughs in scanner technology are making OCR an attractive alternative to keying in original copy.

Getting printed copy out of a Mac has always been easy; getting printed copy in hasn't. However, with the current generation of scanners and optical character-recognition programs, a Mac can now read text more rapidly than most of us can type, and often with comparable or better accuracy.

Now information on loose pieces of paper or in books and magazines can be entered into a computer, then searched, saved or edited. For example, the San Francisco-based executive search company The Corporate Staff is beginning to create electronic images of résumés, according to President Richard Crandall.

Without scanning in images, concurred Larry Miller, vice president of OCR software publisher Caere Corp., if there isn't an immediate match, there is no practical way to save a candidate's information for a future opening. "Apple gets more than a thousand résumés a week," he said.

OCR for the Mac actually comes in two classes, the main one being OCR programs that run on the Mac and work with scanners that also capture graphics. There are also OCR systems that do the translation outside the Mac and send the Mac the resulting data.

With a scanner and separate OCR software, character recognition is a two-step process: The scanner captures the image, then the OCR software translates the patterns into characters.

From the user's point of view, however, the two processes may be combined because you can set up many of the OCR programs to control the operation of a scanner and automatically read the resulting files. In fact, John Woodhall, systems coordinator at Pacific Coast Printing Inc. of Tacoma, Wash., said his company has replaced its previous scanner with Apple's because the software it was interested in, such as Caere's OmniPage and Read-It! from Olduvai Software, directly control that device.

Most makers of Mac-compatible scanners, however, now bundle in their own or customized OCR software or make drivers available, and several of the stand-alone programs have menu choices for the more popular scanners.

Note that with any of the Macintosh setups, the complete scanned-page image has to be read in before it's processed. Most OCR systems are therefore only practical with 1-Mbyte or more of memory, and only on Macs with hard disks. A few of the newer programs are particularly resource-hungry. Caere's OmniPage, for example, needs at least a 4-Mbyte Mac, and if that computer isn't a Mac II, it needs an accelerator board.

The scanners used with OCR programs come in several varieties. For Mac users, the principal choices are flat-bed or sheet-fed configurations.

Because most Macintosh scanners are meant to reproduce artwork as well as read text, many users prefer flat-bed scanners. With this type of device, you lay copy to be read face down as if you were making a photocopy. "We also want to be able to scan a picture and put it into standard letters on the

theory that one picture equals a thousand words," said Crandall.

The flat-bed design is the format used by Apple, Hewlett-Packard, some of the models from Microtek, and DEST Corp. A flat-bed scanner is required if you're going to be reading in bound volumes, or if you want to scan in odd sizes and shapes of paper.

However, if you're going to be scanning multipage documents on a regular basis, said Lee Boysel, one of the founders of Four-Phase Computers of Cupertino, Calif., and now a private investor, "One thing that people want is a scanner with a sheet feeder on it." Scanning and text recognition can take up to several minutes per page, so you want a model that will operate unattended while you do your other work.

Some companies, such as HP, also offer sheet feeders for their flat-bed models, in effect making them into convertibles. Sheet-feeder input trays vary in size from slightly more than a dozen pages to almost 100.

One further variant, the overhead scanner, also is available from a few manufacturers. In this configuration, the document sits face up on a copyboard underneath a lens and optical-sensor chip. Overhead models, however, tend to be either very expensive and oriented toward color prepress work for publishing or very low in cost and oriented toward capturing simple graphics that include some 3-D elements.

Not surprisingly, most Mac scanners use the same 300-dpi resolution established as the standard by the Apple LaserWriter. A few low-cost models, notably ThunderScan from Thunderware (which clips onto the printing carriage of an ImageWriter printer) are limited to lower values, and models from Microtek and Siemens go as high as 400 dpi.

For OCR, the makers of the software have said, the higher the resolution the better. Because the OCR process only can work with the image furnished by the

scanner, the more accurate information presented to the OCR system, the better it can distinguish among characters. The higher the resolution, the smaller the type size that can be read with any given level of error.

The 300-dpi standard used for most Macintosh scanners is usually adequate for larger type sizes starting with 10 or 12 point and workable in some circumstances at 8 point and below. The 400-dpi scanners can read some varieties of type as small as 6 point.

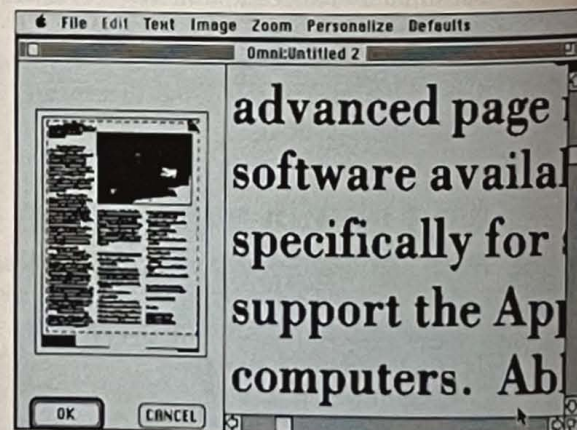
OCR can also be done using the high-resolution Tag Image File Format (TIFF) images from Group 3 fax modems. It's possible that some larger-size text could be read from scans used in Group 2, but OCR software publishers generally don't recommend it.

All of the available scanning software for the Mac expects a binary (black-and-white but no gray) image, which would represent the lower end of the scanner market in the context of graphics. "My opinion is that gray scale doesn't make a difference," said Boysel. "If the scanner does 300 dpi, you can go with something low-priced."

But John Kozlowski, director of marketing for Microtek, said that because there are no useful accuracy and performance specs available for the scanner part of OCR systems, about the only way you can select for quality is to look at what the scanner can do for graphics. In that context, gray scale is often an indicator of overall quality. "A 64-gray-scale scanner probably is better than one that offers only 16 levels."

For the second type of hardware suitability, the

See SCANNERS, Page 42



Caere's OmniPage (above and left) directly controls the scanner device. It understands multiple columns and a wide variety of fonts. The software can even recognize mixed fonts on the page without any training by the user. Unlike Olduvai's Read-It!, however, OmniPage's results cannot be improved by user "font training."





SHARP INTRODUCES A FULL COLOR SCANNER FOR YOUR MACINTOSH.®

Now you can feed high-resolution four color artwork directly into your computer system, and get color reproductions that will astound you with their accuracy.

The new Sharp JX-450 makes it possible—a desktop phenomenon that marks a quantum leap in publishing and presentation graphics systems.

Sharp's resolution of 300 dots per inch provides scanning equal to conventional console types, and gives accurate, finely detailed images with every nuance captured. Also, 64 shade gradations for each element seize the subtlest details, and yield a color tone capacity of over 260,000 shades. Even when you use it with a black or white Mac system, it gives superior grey gradations and middle tones.

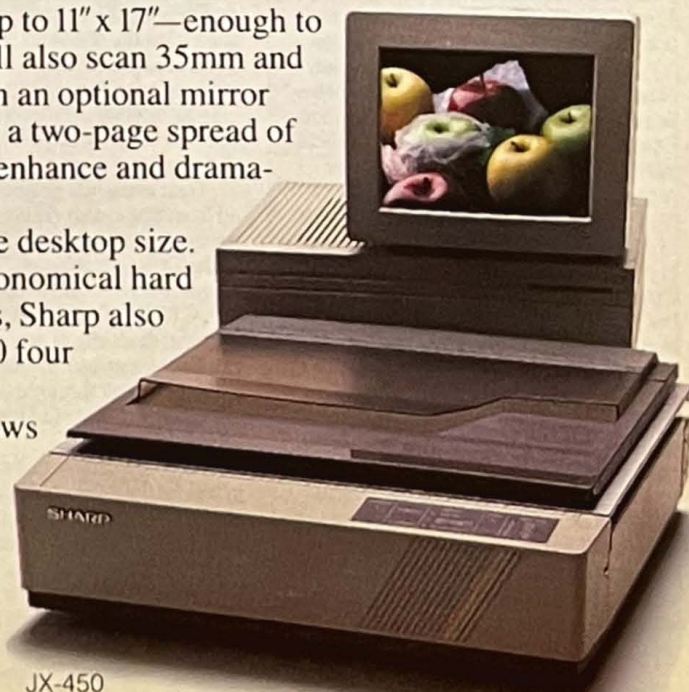
Scanning capacity is up to 11" x 17"—enough to scan a two page spread. It will also scan 35mm and overhead projection film with an optional mirror unit. Picture, if you will, how a two-page spread of finely colored images could enhance and dramatize your presentations.

All this, in an attractive desktop size.

To create exquisite, economical hard copies of your color graphics, Sharp also offers the companion JX-730 four color inkjet printer.

Once again, Sharp shows its true colors. For more information: 1-800-BE-SHARP.

SHARP.
FROM SHARP MINDS
COME SHARP PRODUCTS™



JX-450

SIMULATED PICTURE ON MONITOR

WINDOW ON/SCANNERS

Continued from Page 40

best choice is a scanner with a matched OCR system built in. Larry Orr, marketing manager at DEST Corp., said that his company's WorkLess Station II is probably a good arrangement when there's a particularly heavy scanning load.

The unit, priced at almost \$10,000, costs as much as a scanner and a Mac together and does the entire scanning and recognition job. The resulting text is sent to the Mac over a SCSI or serial link as the complete text of the page in your choice of ASCII, MacWrite or Microsoft Word formats.

Most Mac users don't have such heavy scanning loads and may not need such targeted hardware. "From a consultant's point of view, from a user's point of view, I look for something that's economical and fast," said Richard Gillespie, system development manager at Microcomputer Technology Inc. of Costa Mesa, Calif.

Right now OCR software is experiencing

dynamic growth; there are many possibilities.

Generally programs fall into three classes. The simplest can read only mono-spaced (fixed-width) characters, and are mostly used for entering typed documents or certain computer printouts.

This type of program, such as MacinText from Microtek Lab, is thrown off if there are overhanging characters, such as the "T" over the "o" in "To," or if any two characters have connecting lines (ligatures). This category is also unsuitable for most printed material, which generally uses proportional-width type.

More sophisticated programs, such as Olduvai's Read-It!, can handle the proportional width fonts that are used in printed text, but the majority of programs can handle only a few different fonts at a time. These programs often have to be "trained" to recognize new fonts, which can be a problem if the documents to be read include a wide and changing set of typefaces.

The newest advance is with the type of program that can read most standard fonts, including mixtures of many fonts on the same page.

The Mac program getting the most attention lately is the just-released OmniPage, which lists for \$795. The package not only reads multiple fonts per page but also recognizes such page structures as columns and mixed text and graphics. "I consider it a major breakthrough," said Boysel.

OmniPage uses a built-in intelligent-recognition strategy, which means that it can read a wide variety of fonts and even mixed fonts on the page without any training by the user. On the other hand, because no training is accepted, the program's results cannot be improved by the user. Most Mac scanner vendors, including Apple, HP and Microtek, have or are implementing a version of OmniPage that works directly with their hardware. The program also reads TIFF files.

Another widely used program, Read-It!, must be trained to recognize new fonts (it comes with files for 40 popular fonts). It is also available on a wide variety of scanners. Olduvai even has a version of the program that works with images created by the low-cost ThunderScan system.

Read-It! understands both TIFF and PICT files, so it can be used with images that were created with non-supported scanners, fax boards or other graphics applications. A new version of the product that adds more intelligent recognition techniques to the basic matrix matching (see story at left) is due out this fall.

The third program that receives most mentions from scanner makers is ReadStar II Plus from Inovatic. Although previously distinguished in part by its \$4,500 price tag, a new \$995 list price has made it more accessible. It uses an intelligent character-recognition scheme and is available with drivers for many of the popular scanners.

TextPert, a new program recently imported from Spain, also claims to use an intelligent-recognition method "integrating all three of the OCR technologies." The \$995 program is now marketed and supported by a U.S. affiliate, CTA Inc. Because of the attention to accuracy and flexibility of setup, said Juan Vich, marketing manager for the product, it provides an overall throughput that is faster even though it does not read text as fast as some of the other programs.

There are at least half a dozen more programs on the Mac, such as TextScan from New Image Technology, in various stages of development. Several scanner manufacturers, such as DEST with its MacInText, offer their own entry-level program but rely on the leading packages to satisfy the needs of the more demanding OCR customers.

All of the programs specify accuracy



DEST's WorkLess Station II costs as much as a scanner and a Mac together and does the entire scanning and recognition job.

How characters get recognized

Scanning programs and systems generally use one or more of three main techniques to recognize characters: matrix matching, feature extraction and intelligent recognition.

Matrix matching is the simplest of the techniques and requires the least software complexity. Each character is isolated, translated to a dot pattern in a standard matrix, then matched against the dot patterns of known characters.

Matrix matching can produce fast, accurate results when used with mono-spaced (typewriter-style) fonts that have good character differentiation. Some companies also have been able to produce systems that do well with many of the proportional fonts used for printed text. However, matrix matching has a hard time with multiple fonts, with letters that are kerned (spaced close) and with broken or dirty type.

Feature extraction analyzes characters in terms of their open shapes. Typically, a system might look for closed areas, convex and concave arcs, intersecting lines and so on.

Properly analyzing features takes a lot of computing cycles, so this technique tends to be slower than matrix matching. However, it is more tolerant of slight variations in character shape, size or position.

The third technique goes by a variety of names such as flexible matching, holistic recognition and intelligent recognition. Essentially, it is the application of artificial intelligence-derived methods for shape recognition to characters.

This last method tends to require a lot of computation, but it is the most tolerant of changes in the letterforms and multiple type fonts. In fact, at least one product for the Mac, Caere Corp.'s OmniPage, bills itself as "omnifont" recognition.

Especially with the first two methods, where the details of individual characters are important, the system may need to be "trained" for each font. In this procedure, the user furnishes a sample of the font to be scanned and identifies for the system any characters that are not yet recognized. This training process can take from a few minutes to nearly a quarter of an hour. Most systems that use training also come with pre-built training files for the more popular typefaces. — By Steve Rosenthal

rates of better than 99 percent on text within their reading parameters. But users have said that the result is often more modest.

"We hit 97 percent on a normal multiple-column document with no breaks, such as a White Pages [document]," said Pacific Coast Publishing's Woodhall, "but we hit 44 percent on complex, multiple-column documents like the Yellow Pages. In our particular case, 99 percent is most desirable, 97 percent gets to

be troublesome — 2 or 3 percent error is a breaking point for us."

However, when the alternative is complete rekeying or significant correcting, there is no doubt in most users' minds which they would rather do. Mac OCR may not yet be perfect, but in many instances it's clearly a lot better than the input alternatives. □

Steve Rosenthal is a MacWEEK contributing editor.

PRODUCT INFO

Apple

Apple Scanner: \$1,799
20525 Mariani Ave.
Cupertino, Calif. 95014
(408) 996-1010; (800) 538-9696

Caere Corp.

OmniPage: \$795
100 Cooper Court
Los Gatos, Calif. 95030
(408) 395-7000;
(800) 535-7226

CTA Inc.

TextPert: \$995
866 Second Ave.
New York, N.Y. 10017
(212) 759-6201

Datacopy Corp.

MacOCR: \$695; JetReader Scanner:
\$1,300; Model 730 Scanner: \$1,800
1215 Terra Bella Ave.
Mountain View, Calif. 94043
(415) 965-7900; (800) 821-2898

DEST Corp.

Text Pac: \$595; PC Scan 1000 and
2000 series: \$1,495 and up; WorkLess Sta-
tion II: \$9,795 and up; Publish Pac: \$595
1201 Cadillac Court
Milpitas, Calif. 95035
(408) 946-7100;
(800) 538-7583

Hewlett-Packard

HP ScanJet: \$2,090
19310 Pruneridge Ave.
Cupertino, Calif. 95014
(619) 592-8363;
(800) 752-0900

Inovatic

ReadStar II Plus: \$995
1911 N. Ft. Myer Drive, Suite 708
Arlington, Va. 22209
(703) 522-3053

Intelligent Optics Corp.

700A: \$5,495
4 Heritage Park Road
Clinton, Conn. 06413
(203) 669-3650

Microtek Lab Inc.

MSF-300C: \$1,595; MSF-300QS: \$2,295
until Dec. 1, then \$2,495; MSF-300G:
\$3,495; MSF-400G: \$3,995;
MacinText: \$199
16901 S. Western Ave.
Gardena, Calif. 90247
(213) 321-2121; (800) 654-4160

Mirror Technologies Inc.

N-205 Overhead Scanner
(VisionScan): \$595
2644 Patton Road
Roseville, Minn. 55113
(612) 633-3255

New Image Technology

MacScan: \$1,995; TextScan: \$395
9701 Philadelphia Court
Lanham, Md. 20706
(301) 731-2000

Olduvai Software

Read-It!: \$395; Read-It! TF (for use with
ThunderScan): \$149
7520 Red Road, Suite A
South Miami, Fla. 33143
(305) 665-4665; (800) 822-0772

Siemens Peripheral Systems division

HighScan: \$4,900 to \$6,800, volume
discounts available
240 E. Palais Road
Anaheim, Calif. 92805
(714) 991-9700

Thunderware Inc.

ThunderScan: \$249
21 Orinda Way
Orinda, Calif. 94563
(415) 254-6581

**HOW MANY
CHECKS WILL
IT TAKE
TO NETWORK
YOUR ENTIRE
COMPANY?**

AS MANY CHECKS AS

MAINFRAMES

Amdahl

- ☐ S890
- ☐ Model 180E
- ☐ Model 190
- ☐ Model 190E
- ☐ Model 200
- ☐ Model 200E
- ☐ Model 300
- ☐ Model 300E
- ☐ Model 390E
- ☐ Model 400E
- ☐ Model 600E
- ☐ S990
- ☐ Model 700
- ☐ Model 1400

Control Data

- ☐ Cyber 900 Family
- ☐ Cyber 930
- ☐ Cyber 960
- ☐ Cyber 990

Cray

- ☐ Cray Supercomputers
- ☐ Cray-2
- ☐ Cray X-MP
- ☐ Cray Y-MP

Hitachi

- ☐ L-Series
- ☐ L-450
- ☐ L-470
- ☐ M-Series
- ☐ M-220
- ☐ M-240
- ☐ M-620
- ☐ M-640
- ☐ M-660
- ☐ M-680

Honeywell Bull

- ☐ DPS 7000 Series
- ☐ 7000/10
- ☐ 7000/20

IBM

- ☐ 7000/30
- ☐ 7000/40
- ☐ 7000/50
- ☐ 7000/72
- ☐ 7000/82
- ☐ 7000/92
- ☐ DPS 8
- ☐ S2
- ☐ S22
- ☐ S24
- ☐ S26
- ☐ S28
- ☐ S30
- ☐ S32
- ☐ S34
- ☐ S36
- ☐ S38
- ☐ S40
- ☐ S42
- ☐ S44
- ☐ S46
- ☐ S48
- ☐ S50
- ☐ S52
- ☐ S54
- ☐ S56
- ☐ S58
- ☐ S60
- ☐ S62
- ☐ S64
- ☐ S66
- ☐ S68
- ☐ S70
- ☐ S72
- ☐ S74
- ☐ S76
- ☐ S78
- ☐ S80
- ☐ S82
- ☐ S84
- ☐ S86
- ☐ S88
- ☐ S90
- ☐ S92
- ☐ S94
- ☐ S96
- ☐ S98
- ☐ S100
- ☐ S102
- ☐ S104
- ☐ S106
- ☐ S108
- ☐ S110
- ☐ S112
- ☐ S114
- ☐ S116
- ☐ S118
- ☐ S120
- ☐ S122
- ☐ S124
- ☐ S126
- ☐ S128
- ☐ S130
- ☐ S132
- ☐ S134
- ☐ S136
- ☐ S138
- ☐ S140
- ☐ S142
- ☐ S144
- ☐ S146
- ☐ S148
- ☐ S150
- ☐ S152
- ☐ S154
- ☐ S156
- ☐ S158
- ☐ S160
- ☐ S162
- ☐ S164
- ☐ S166
- ☐ S168
- ☐ S170
- ☐ S172
- ☐ S174
- ☐ S176
- ☐ S178
- ☐ S180
- ☐ S182
- ☐ S184
- ☐ S186
- ☐ S188
- ☐ S190
- ☐ S192
- ☐ S194
- ☐ S196
- ☐ S198
- ☐ S200
- ☐ S202
- ☐ S204
- ☐ S206
- ☐ S208
- ☐ S210
- ☐ S212
- ☐ S214
- ☐ S216
- ☐ S218
- ☐ S220
- ☐ S222
- ☐ S224
- ☐ S226
- ☐ S228
- ☐ S230
- ☐ S232
- ☐ S234
- ☐ S236
- ☐ S238
- ☐ S240
- ☐ S242
- ☐ S244
- ☐ S246
- ☐ S248
- ☐ S250
- ☐ S252
- ☐ S254
- ☐ S256
- ☐ S258
- ☐ S260
- ☐ S262
- ☐ S264
- ☐ S266
- ☐ S268
- ☐ S270
- ☐ S272
- ☐ S274
- ☐ S276
- ☐ S278
- ☐ S280
- ☐ S282
- ☐ S284
- ☐ S286
- ☐ S288
- ☐ S290
- ☐ S292
- ☐ S294
- ☐ S296
- ☐ S298
- ☐ S300
- ☐ S302
- ☐ S304
- ☐ S306
- ☐ S308
- ☐ S310
- ☐ S312
- ☐ S314
- ☐ S316
- ☐ S318
- ☐ S320
- ☐ S322
- ☐ S324
- ☐ S326
- ☐ S328
- ☐ S330
- ☐ S332
- ☐ S334
- ☐ S336
- ☐ S338
- ☐ S340
- ☐ S342
- ☐ S344
- ☐ S346
- ☐ S348
- ☐ S350
- ☐ S352
- ☐ S354
- ☐ S356
- ☐ S358
- ☐ S360
- ☐ S362
- ☐ S364
- ☐ S366
- ☐ S368
- ☐ S370
- ☐ S372
- ☐ S374
- ☐ S376
- ☐ S378
- ☐ S380
- ☐ S382
- ☐ S384
- ☐ S386
- ☐ S388
- ☐ S390
- ☐ S392
- ☐ S394
- ☐ S396
- ☐ S398
- ☐ S400
- ☐ S402
- ☐ S404
- ☐ S406
- ☐ S408
- ☐ S410
- ☐ S412
- ☐ S414
- ☐ S416
- ☐ S418
- ☐ S420
- ☐ S422
- ☐ S424
- ☐ S426
- ☐ S428
- ☐ S430
- ☐ S432
- ☐ S434
- ☐ S436
- ☐ S438
- ☐ S440
- ☐ S442
- ☐ S444
- ☐ S446
- ☐ S448
- ☐ S450
- ☐ S452
- ☐ S454
- ☐ S456
- ☐ S458
- ☐ S460
- ☐ S462
- ☐ S464
- ☐ S466
- ☐ S468
- ☐ S470
- ☐ S472
- ☐ S474
- ☐ S476
- ☐ S478
- ☐ S480
- ☐ S482
- ☐ S484
- ☐ S486
- ☐ S488
- ☐ S490
- ☐ S492
- ☐ S494
- ☐ S496
- ☐ S498
- ☐ S500
- ☐ S502
- ☐ S504
- ☐ S506
- ☐ S508
- ☐ S510
- ☐ S512
- ☐ S514
- ☐ S516
- ☐ S518
- ☐ S520
- ☐ S522
- ☐ S524
- ☐ S526
- ☐ S528
- ☐ S530
- ☐ S532
- ☐ S534
- ☐ S536
- ☐ S538
- ☐ S540
- ☐ S542
- ☐ S544
- ☐ S546
- ☐ S548
- ☐ S550
- ☐ S552
- ☐ S554
- ☐ S556
- ☐ S558
- ☐ S560
- ☐ S562
- ☐ S564
- ☐ S566
- ☐ S568
- ☐ S570
- ☐ S572
- ☐ S574
- ☐ S576
- ☐ S578
- ☐ S580
- ☐ S582
- ☐ S584
- ☐ S586
- ☐ S588
- ☐ S590
- ☐ S592
- ☐ S594
- ☐ S596
- ☐ S598
- ☐ S600
- ☐ S602
- ☐ S604
- ☐ S606
- ☐ S608
- ☐ S610
- ☐ S612
- ☐ S614
- ☐ S616
- ☐ S618
- ☐ S620
- ☐ S622
- ☐ S624
- ☐ S626
- ☐ S628
- ☐ S630
- ☐ S632
- ☐ S634
- ☐ S636
- ☐ S638
- ☐ S640
- ☐ S642
- ☐ S644
- ☐ S646
- ☐ S648
- ☐ S650
- ☐ S652
- ☐ S654
- ☐ S656
- ☐ S658
- ☐ S660
- ☐ S662
- ☐ S664
- ☐ S666
- ☐ S668
- ☐ S670
- ☐ S672
- ☐ S674
- ☐ S676
- ☐ S678
- ☐ S680
- ☐ S682
- ☐ S684
- ☐ S686
- ☐ S688
- ☐ S690
- ☐ S692
- ☐ S694
- ☐ S696
- ☐ S698
- ☐ S700
- ☐ S702
- ☐ S704
- ☐ S706
- ☐ S708
- ☐ S710
- ☐ S712
- ☐ S714
- ☐ S716
- ☐ S718
- ☐ S720
- ☐ S722
- ☐ S724
- ☐ S726
- ☐ S728
- ☐ S730
- ☐ S732
- ☐ S734
- ☐ S736
- ☐ S738
- ☐ S740
- ☐ S742
- ☐ S744
- ☐ S746
- ☐ S748
- ☐ S750
- ☐ S752
- ☐ S754
- ☐ S756
- ☐ S758
- ☐ S760
- ☐ S762
- ☐ S764
- ☐ S766
- ☐ S768
- ☐ S770
- ☐ S772
- ☐ S774
- ☐ S776
- ☐ S778
- ☐ S780
- ☐ S782
- ☐ S784
- ☐ S786
- ☐ S788
- ☐ S790
- ☐ S792
- ☐ S794
- ☐ S796
- ☐ S798
- ☐ S800
- ☐ S802
- ☐ S804
- ☐ S806
- ☐ S808
- ☐ S810
- ☐ S812
- ☐ S814
- ☐ S816
- ☐ S818
- ☐ S820
- ☐ S822
- ☐ S824
- ☐ S826
- ☐ S828
- ☐ S830
- ☐ S832
- ☐ S834
- ☐ S836
- ☐ S838
- ☐ S840
- ☐ S842
- ☐ S844
- ☐ S846
- ☐ S848
- ☐ S850
- ☐ S852
- ☐ S854
- ☐ S856
- ☐ S858
- ☐ S860
- ☐ S862
- ☐ S864
- ☐ S866
- ☐ S868
- ☐ S870
- ☐ S872
- ☐ S874
- ☐ S876
- ☐ S878
- ☐ S880
- ☐ S882
- ☐ S884
- ☐ S886
- ☐ S888
- ☐ S890
- ☐ S892
- ☐ S894
- ☐ S896
- ☐ S898
- ☐ S900
- ☐ S902
- ☐ S904
- ☐ S906
- ☐ S908
- ☐ S910
- ☐ S912
- ☐ S914
- ☐ S916
- ☐ S918
- ☐ S920
- ☐ S922
- ☐ S924
- ☐ S926
- ☐ S928
- ☐ S930
- ☐ S932
- ☐ S934
- ☐ S936
- ☐ S938
- ☐ S940
- ☐ S942
- ☐ S944
- ☐ S946
- ☐ S948
- ☐ S950
- ☐ S952
- ☐ S954
- ☐ S956
- ☐ S958
- ☐ S960
- ☐ S962
- ☐ S964
- ☐ S966
- ☐ S968
- ☐ S970
- ☐ S972
- ☐ S974
- ☐ S976
- ☐ S978
- ☐ S980
- ☐ S982
- ☐ S984
- ☐ S986
- ☐ S988
- ☐ S990
- ☐ S992
- ☐ S994
- ☐ S996
- ☐ S998
- ☐ S1000
- ☐ S1002
- ☐ S1004
- ☐ S1006
- ☐ S1008
- ☐ S1010
- ☐ S1012
- ☐ S1014
- ☐ S1016
- ☐ S1018
- ☐ S1020
- ☐ S1022
- ☐ S1024
- ☐ S1026
- ☐ S1028
- ☐ S1030
- ☐ S1032
- ☐ S1034
- ☐ S1036
- ☐ S1038
- ☐ S1040
- ☐ S1042
- ☐ S1044
- ☐ S1046
- ☐ S1048
- ☐ S1050
- ☐ S1052
- ☐ S1054
- ☐ S1056
- ☐ S1058
- ☐ S1060
- ☐ S1062
- ☐ S1064
- ☐ S1066
- ☐ S1068
- ☐ S1070
- ☐ S1072
- ☐ S1074
- ☐ S1076
- ☐ S1078
- ☐ S1080
- ☐ S1082
- ☐ S1084
- ☐ S1086
- ☐ S1088
- ☐ S1090
- ☐ S1092
- ☐ S1094
- ☐ S1096
- ☐ S1098
- ☐ S1100
- ☐ S1102
- ☐ S1104
- ☐ S1106
- ☐ S1108
- ☐ S1110
- ☐ S1112
- ☐ S1114
- ☐ S1116
- ☐ S1118
- ☐ S1120
- ☐ S1122
- ☐ S1124
- ☐ S1126
- ☐ S1128
- ☐ S1130
- ☐ S1132
- ☐ S1134
- ☐ S1136
- ☐ S1138
- ☐ S1140
- ☐ S1142
- ☐ S1144
- ☐ S1146
- ☐ S1148
- ☐ S1150
- ☐ S1152
- ☐ S1154
- ☐ S1156
- ☐ S1158
- ☐ S1160
- ☐ S1162
- ☐ S1164
- ☐ S1166
- ☐ S1168
- ☐ S1170
- ☐ S1172
- ☐ S1174
- ☐ S1176
- ☐ S1178
- ☐ S1180
- ☐ S1182
- ☐ S1184
- ☐ S1186
- ☐ S1188
- ☐ S1190
- ☐ S1192
- ☐ S1194
- ☐ S1196
- ☐ S1198
- ☐ S1200
- ☐ S1202
- ☐ S1204
- ☐ S1206
- ☐ S1208
- ☐ S1210
- ☐ S1212
- ☐ S1214
- ☐ S1216
- ☐ S1218
- ☐ S1220
- ☐ S1222
- ☐ S1224
- ☐ S1226
- ☐ S1228
- ☐ S1230
- ☐ S1232
- ☐ S1234
- ☐ S1236
- ☐ S1238
- ☐ S1240
- ☐ S1242
- ☐ S1244
- ☐ S1246
- ☐ S1248
- ☐ S1250
- ☐ S1252
- ☐ S1254
- ☐ S1256
- ☐ S1258
- ☐ S1260
- ☐ S1262
- ☐ S1264
- ☐ S1266
- ☐ S1268
- ☐ S1270
- ☐ S1272
- ☐ S1274
- ☐ S1276
- ☐ S1278
- ☐ S1280
- ☐ S1282
- ☐ S1284
- ☐ S1286
- ☐ S1288
- ☐ S1290
- ☐ S1292
- ☐ S1294
- ☐ S1296
- ☐ S1298
- ☐ S1300
- ☐ S1302
- ☐ S1304
- ☐ S1306
- ☐ S1308
- ☐ S1310
- ☐ S1312
- ☐ S1314
- ☐ S1316
- ☐ S1318
- ☐ S1320
- ☐ S1322
- ☐ S1324
- ☐ S1326
- ☐ S1328
- ☐ S1330
- ☐ S1332
- ☐ S1334
- ☐ S1336
- ☐ S1338
- ☐ S1340
- ☐ S1342
- ☐ S1344
- ☐ S1346
- ☐ S1348
- ☐ S1350
- ☐ S1352
- ☐ S1354
- ☐ S1356
- ☐ S1358
- ☐ S1360
- ☐ S1362
- ☐ S1364
- ☐ S1366
- ☐ S1368
- ☐ S1370
- ☐ S1372
- ☐ S1374
- ☐ S1376
- ☐ S1378
- ☐ S1380
- ☐ S1382
- ☐ S1384
- ☐ S1386
- ☐ S1388
- ☐ S1390
- ☐ S1392
- ☐ S1394
- ☐ S1396
- ☐ S1398
- ☐ S1400
- ☐ S1402
- ☐ S1404
- ☐ S1406
- ☐ S1408
- ☐ S1410
- ☐ S1412
- ☐ S1414
- ☐ S1416
- ☐ S1418
- ☐ S1420
- ☐ S1422
- ☐ S1424
- ☐ S1426
- ☐ S1428
- ☐ S1430
- ☐ S1432
- ☐ S1434
- ☐ S1436
- ☐ S1438
- ☐ S1440
- ☐ S1442
- ☐ S1444
- ☐ S1446
- ☐ S1448
- ☐ S1450
- ☐ S1452
- ☐ S1454
- ☐ S1456
- ☐ S1458
- ☐ S1460
- ☐ S1462
- ☐ S1464
- ☐ S1466
- ☐ S1468

YOU'D LIKE.

PERIPHERALS

- Boards**
- ☐ AboveBoard
 - ☐ High Page
 - ☐ IBM Token Ring Adapter Card

- AST**
- ☐ Laserwriter II NT
 - ☐ Laserwriter NT
 - ☐ Laserwriter Plus
 - ☐ TurboLaser PIS

- Citizen**
- ☐ ProWriter C715
 - ☐ ProWriter Jr. +
 - ☐ StarWriter D10
 - ☐ Jetsetter Laser
 - ☐ L20-D

- Diablo**
- ☐ MSP-55
 - ☐ Premiere 35
 - ☐ Tribute 124
 - ☐ Tribute 224
 - ☐ Advantage D25

- Epson**
- ☐ DFX5000
 - ☐ FX8000
 - ☐ FX1050
 - ☐ FX2868
 - ☐ FX850
 - ☐ L1000
 - ☐ LQ Series
 - ☐ LQ1050
 - ☐ LQ2500
 - ☐ LQ2550
 - ☐ LQ500
 - ☐ LQ850
 - ☐ LQ950
 - ☐ LQ960
 - ☐ LQ980
 - ☐ MX Series
 - ☐ RX Series

- Fujitsu**
- ☐ RX7100
 - ☐ RX7200

- Hewlett-Packard**
- ☐ LaserJet
 - ☐ LaserJet Model 2
 - ☐ LaserJet 2000
 - ☐ LaserJet 500 +
 - ☐ LaserJet +
 - ☐ LaserJet Series II
 - ☐ ScanJet
 - ☐ DesignJet
 - ☐ HP 7475A Plotter
 - ☐ HP 7550A Plotter

- IBM**
- ☐ ProPrinter

- NEC**
- ☐ LC860
 - ☐ LC890
 - ☐ P6 Plotwriter
 - ☐ P7 Plotwriter
 - ☐ PSL Plotwriter
 - ☐ PZ200 Plotwriter

- Okidata**
- ☐ Laserline 6
 - ☐ Microline 192 Plus
 - ☐ Microline 193 Plus
 - ☐ Microline 292
 - ☐ Microline 293

- Microline 393**
- ☐ KX-P1080i
 - ☐ KX-P1091i
 - ☐ KX-P1092i

- Star Microelectronics**
- ☐ ND15
 - ☐ NR10
 - ☐ NR15
 - ☐ NX1000
 - ☐ NX15

- Toshiba**
- ☐ PageLaser
 - ☐ 321 SL
 - ☐ 341 SL
 - ☐ 351 SL
 - ☐ 351 C-2

- Xerox**
- ☐ Model 8044
 - ☐ Model 4045
 - ☐ Model 4075
 - ☐ Model 4090
 - ☐ Model 8700
 - ☐ Model 8790
 - ☐ Model 9700
 - ☐ Model 9790

Telecommunications

- Amdahl**
- ☐ 4770X Communications Processor
 - ☐ 4725
 - ☐ 4725E
 - ☐ 4725
- Digi-Link**
- ☐ Model DL55TY-01BC
- Hayes**
- ☐ Smartmodem 2400
 - ☐ Smartmodem 1200
 - ☐ V Series 9600
 - ☐ Personal Modem
- IBM**
- ☐ 3720 Communication Controller
 - ☐ 3721 Expansion Unit

- ☐ 3725 Communication Controller Model 1
- ☐ 3725 Communication Controller Model 2
- ☐ 3728 Communication Control Matrix Switch
- ☐ 3770 Device Attachment Control Unit (DACU)
- ☐ 3771 ASCII Device Attachment Control Unit



- ☐ 7426 Terminal Interface Unit
 - ☐ 7427 Console Switching Unit
 - ☐ 9736 Integrated Digital Network Exchange Model 20
 - ☐ 9737 Integrated Digital Network Exchange Model 40
 - ☐ 9738 Integrated Digital Network Exchange Model 70
 - ☐ IBM 9751 CBX
- Natural Microsystems**
- ☐ Watson Voice System
- Racal-Vadic**
- ☐ 1200VP
 - ☐ 1200PA
 - ☐ 2400VP
 - ☐ 2400PA Model 2
 - ☐ 5600VD
- Scitex**
- ☐ Integrator 1544
- Telebit Corp.**
- ☐ Trailblazer Plus
- Ven-Tel**
- ☐ 18-K



- Printers, Lasers, Scanners**
- ☐ Inboard 386
 - ☐ J-Laser Board
 - ☐ TinyTurbo 286

- C. Itoh**
- ☐ PW 1550S + NLQ
 - ☐ PW 8510S + NLQ
 - ☐ ProWriter 310
 - ☐ ProWriter 315

- 180-D**
- ☐ MSP-LSE
 - ☐ MSP-40
 - ☐ MSP-45
 - ☐ MSP-50

APPLICATION SOFTWARE

- ☐ 1-2-3
- ☐ 1-2-3 Networker
- ☐ 4th Dimension
- ☐ Ability
- ☐ Access/25/50/100/150
- ☐ AccountMate
- ☐ AccountMate III Plus
- ☐ ACCPAC BPI Accounting
- ☐ ACCPAC Plus
- ☐ Adobe Illustrator
- ☐ Advanced Revelation
- ☐ Aerus
- ☐ AIMS
- ☐ AppleLink
- ☐ Application Development System

- ☐ Freedance Plus
- ☐ GEM Desktop
- ☐ GEM Draw
- ☐ GEM Graph
- ☐ GP
- ☐ Great Plains
- ☐ Harmony
- ☐ Harvard Graphics
- ☐ Harvard Total Project Manager
- ☐ Higgins Group
- ☐ Productivity Software
- ☐ High Stepper
- ☐ HyperCard
- ☐ ICMS
- ☐ Informix-4GL

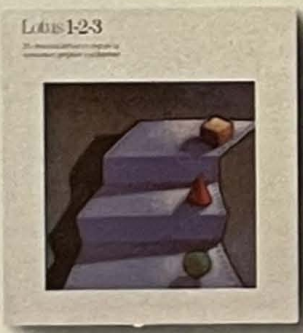
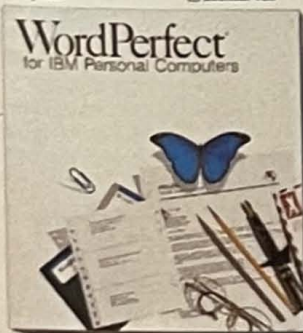
- ☐ Microsoft Linker
- ☐ Microsoft Project
- ☐ Microsoft QuickBasic
- ☐ Microsoft Word for Macintosh
- ☐ Microsoft Word for the PC
- ☐ More!
- ☐ MultiMate Advantage II LAN
- ☐ Multiplan
- ☐ NETmanager - The LAN Support Center
- ☐ NETremote - Network Productivity Tool
- ☐ NetTime
- ☐ Netway 100/AE
- ☐ Network Co-Processor
- ☐ NIN
- ☐ NINplus
- ☐ Nursing Information Network
- ☐ O'Hanlon's Data Base Solutions
- ☐ OAT OATGATE
- ☐ Office Writer
- ☐ OMNIS 3 Plus
- ☐ Open Access II Network
- ☐ Operating Room Information Network
- ☐ Orchestrade Series
- ☐ ORIN
- ☐ OSAS
- ☐ PageMaker for the Macintosh
- ☐ PageMaker for the PC
- ☐ Pamedex
- ☐ PC Focus
- ☐ PC Paint Plus
- ☐ PC Watch

- ☐ PWS/IDEAS
- ☐ Q-Pro 4
- ☐ Quattro
- ☐ QuickConnect
- ☐ QuickSilver
- ☐ R&R Relational Report Writing
- ☐ R-BASE CLOUT
- ☐ R-BASE Extended Report Writer
- ☐ R-BASE for DOS
- ☐ R-BASE Program Interface (PI)
- ☐ R-BASE Runtime
- ☐ R-BASE System V
- ☐ RDM
- ☐ Ready, Set, Go!
- ☐ Real World
- ☐ Reference Point
- ☐ Reflex - The Analyst
- ☐ Reflex Plus
- ☐ Retail Inventory Control
- ☐ Revell
- ☐ RM/COBOL
- ☐ RM/COBOL-85
- ☐ RM/Net + 5
- ☐ Sales Executive
- ☐ Samma Word
- ☐ Plus IV
- ☐ SBT Database
- ☐ Accounting Library
- ☐ Shoebox 3

PROTOCOLS

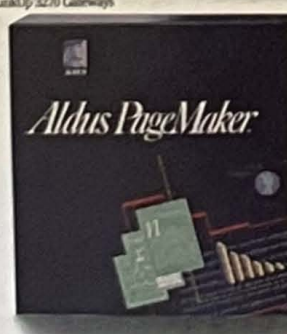
- ☐ AFP
- ☐ Async
- ☐ Bismac
- ☐ DLC
- ☐ HDLC
- ☐ OSI
- ☐ SDLC
- ☐ SMB
- ☐ SNA
- ☐ TCP/IP
- ☐ X.25
- ☐ XNS

- ☐ Time Line
- ☐ Time Line Graphics
- ☐ Total Word
- ☐ Turbo C
- ☐ Turbo Database
- ☐ Turbo Editor
- ☐ Turbo



- ☐ ARIZVE
- ☐ Asynchronous Communications Server
- ☐ AutoCAD
- ☐ BABY736
- ☐ Bill Progression/2
- ☐ Browser
- ☐ Browser/IN
- ☐ C Language RPC Compiler
- ☐ C-ISA
- ☐ Confere Copy
- ☐ Case Management Systems
- ☐ CC-Assist
- ☐ CertPlus
- ☐ Clamshell III
- ☐ Chameleon CS-4 LTES Gateway
- ☐ CLC
- ☐ Clapper
- ☐ Close-Up
- ☐ Color Magic
- ☐ Concolor 3
- ☐ Context
- ☐ Cricket Draw
- ☐ Cricket Graph
- ☐ CROSSPOINT
- ☐ CrossTalk XVI
- ☐ CrossTalk XVI for Networks
- ☐ CYMA
- ☐ DataEdge
- ☐ DataFlex
- ☐ DataLex
- ☐ dBASE Graphics
- ☐ dBASE III Plus
- ☐ dBase
- ☐ Direct Net
- ☐ DisplayWrite 4
- ☐ Distribution Manager
- ☐ DT Network
- ☐ EasyFilter
- ☐ EasyGate
- ☐ EasyWriter II
- ☐ EGA Paint
- ☐ EnableLAN
- ☐ Enrich
- ☐ EtherComm
- ☐ EtherConnect - LAN Interface for PC/S/W
- ☐ Eureka: The Solver for the Macintosh
- ☐ Eureka: The Solver IBM Version
- ☐ ExcelStar Plus
- ☐ Extended Features
- ☐ FailSafe
- ☐ File & Find
- ☐ Filemaker Plus
- ☐ Focal Point
- ☐ ForComm: Network Version
- ☐ FoxBASE+
- ☐ Framework II
- ☐ FreeHand
- ☐ Freedance

- ☐ Informix-ES/QLC
- ☐ Informix-SQL
- ☐ InfoTrax
- ☐ Insurance Writer
- ☐ IBMALAN
- ☐ Jewel
- ☐ JetFax
- ☐ KeyEntry III/ALAN
- ☐ LAN Administrator's Kit
- ☐ LAN Shell
- ☐ LAN Datacom
- ☐ LAN Datacom
- ☐ Lanescape
- ☐ Legal Billing II +
- ☐ LinkUp 3270 Gateways



- ☐ Turbo Graphics
- ☐ Turbo Pascal
- ☐ Turbo Pascal Database Toolbox
- ☐ Turbo Pascal for the Macintosh
- ☐ Turbo Prolog
- ☐ Turbo Tutor
- ☐ Unify
- ☐ VAL/PTSC
- ☐ Vanguard PCB Design System
- ☐ Ventura Publisher
- ☐ Ventura Deluxe
- ☐ ViewStar Pro Series
- ☐ Volkswriter Deluxe Plus
- ☐ Volkswriter III LAN

- ☐ MacDraw
- ☐ MacFile
- ☐ MacProject
- ☐ MacWrite
- ☐ Magic PC
- ☐ Manufacturing Manager
- ☐ MasterDesigner II
- ☐ MathPlan
- ☐ Masters SNA Gateway
- ☐ Maystream
- ☐ McMax
- ☐ MDOS III
- ☐ Me2
- ☐ Metro
- ☐ MICA
- ☐ Microsoft Assembler
- ☐ Microsoft C Compiler
- ☐ Microsoft Chart - Macintosh Version
- ☐ Microsoft Chart - PC Version
- ☐ Microsoft Excel
- ☐ Microsoft Excel for the PC
- ☐ Microsoft File

- ☐ PC-Animate
- ☐ PC/TCP Network Software
- ☐ PCOS/Gateway - 16
- ☐ Personal Editor 2 (PE2)
- ☐ Personal Resource
- ☐ Network/Schedule
- ☐ PFS:Professional File
- ☐ PFS:Professional Network
- ☐ PFS:Professional Plan
- ☐ PFS:Professional Write
- ☐ PlanPerfect
- ☐ Platinum
- ☐ PLUS/8 - VIP Terminal Emulation
- ☐ Point of Sale for Real World
- ☐ PolySTAR/220 & 240 for DEC LAT networks
- ☐ PolySTAR/220 & PolySTAR/240
- ☐ Power Manager
- ☐ PowerBase
- ☐ PowerPoint
- ☐ PROGRESS
- ☐ Project Manager
- ☐ Property Management

- ☐ SuperPaint
- ☐ SuperProject Expert
- ☐ SuperProject Expert LastPak
- ☐ SURPASS
- ☐ Surveyor's Management System
- ☐ Symphony
- ☐ T3
- ☐ TCS Total Accounting System
- ☐ TEAM-UP
- ☐ The Coordinator System
- ☐ The Scheduler
- ☐ The Smart Software System
- ☐ The Spreadsheet Auditor
- ☐ Timberline

- ☐ Volkswriter Scientific
- ☐ Windows
- ☐ Windows/386
- ☐ WordPerfect
- ☐ WordPerfect - Library
- ☐ Words & Figures
- ☐ WordStar 2000
- ☐ WordStar 2000 Plus
- ☐ WordStar Professional
- ☐ Xtrieve
- ☐ Xtrieve Report Writer Option
- ☐ XyWrite III
- ☐ XyWrite III Plus
- ☐ ZIM
- ☐ ZyNDEX

Take a moment to look over this page. Anything you check, we can combine into a single, integrated network. With the flexibility to change as your needs change. That's because at 3Com we can network more types of systems to more types of systems.

We make over 350 modular networking products. Everything from adapter boards to network operating systems to mainframe connections.

Each one built upon a platform of established industry standards. Making incompatibility virtually a non-issue at any level. Be it corporate, departmental or workgroup.

Now, take a moment to look over your preferred vendor list.

If 3Com isn't on it, maybe you should call 1-800-NET-3Com, Dept. AE. And check us out.

3Com

We network more types of systems to more types of systems.

Word publishing or desktop processing?

By Steve Cummings

The age-old
form vs. content
debate takes on
new shape as
word processors
get graphic.

While the merging of word processing and page-layout software has been long predicted, it wasn't until this year that Mac word processing made real inroads into desktop publishing's turf.

Accompanied by a torrent of advertising and media coverage, Ashton-Tate's FullWrite Professional arrived, delivering page-layout features never before seen this side of PageMaker or Ready,Set,Go! With other publishers of word processors promising desktop publishing enhancements of their own, an industry trend is clearly under way.

According to users and developers alike, the addition of page-layout features to word processors is a boon to those who want to easily produce attractive documents and who have little patience with the intricacies of typography and graphic design.

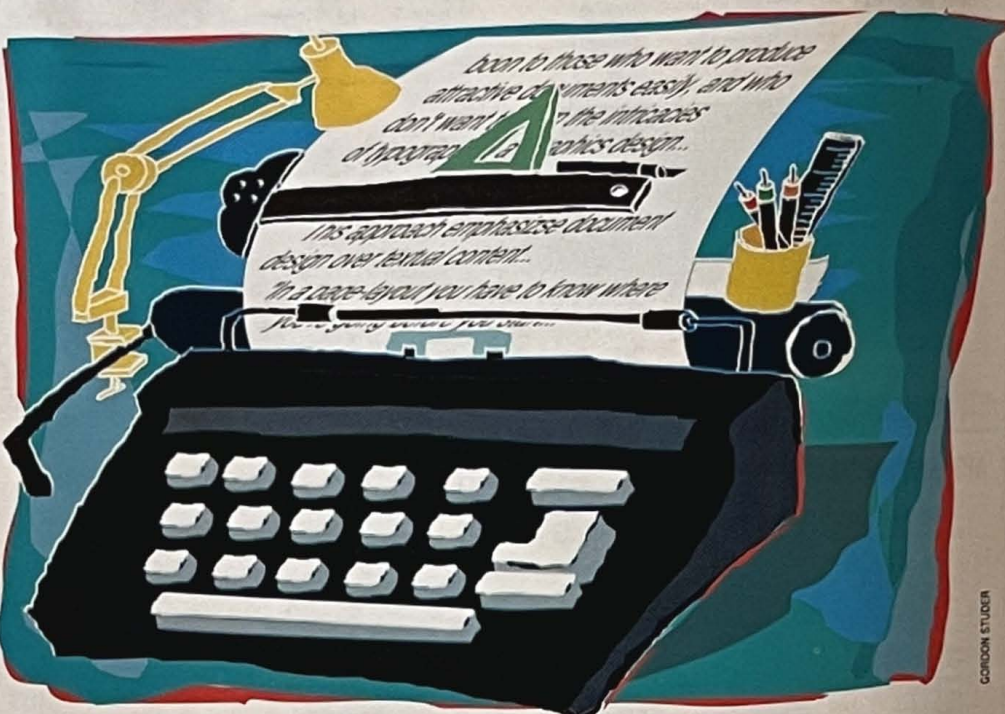
"I think it's a natural migration that the two [categories] are going to grow together," said Tim Johnson, group-product sales manager at Ashton-Tate. "People want to do it all with one program."

In the past, Johnson maintained, "a word processor was where you set down your ideas and, to a certain extent, did some formatting, but a page-layout system was where you really made it look nice."

Even before the appearance of FullWrite, however, the distinction between the two types of applications had begun to blur. Mac word processors steadily gained in formatting power, and page-layout programs added text-related features such as spelling checkers and search-and-replace capabilities. Still, FullWrite goes further than any previous word processor in offering advanced desktop publishing features, according to Johnson.

FullWrite's text formatting capabilities include kerning and automatic formatting of multiple columns. Sidebars (text blocks independent of body copy) can be placed anywhere on a page. Graphics features are abundant and include a set of drawing tools for creating lines, borders and simple drawings. Imported graphics can be placed, cropped and accurately scaled. FullWrite will even automatically flow text around graphic elements.

Despite its formatting strengths, however, FullWrite remains at heart a word processor, according to Johnson. "You start with your words, and you get [the document] to say what you want it to say," he said. "Then you play



around with making it look how you want it to look."

Unlike most page-layout programs, word processors place text directly on the screen page and manage the text as an unbroken file that automatically continues over consecutive pages, Johnson said. Page-layout programs, by contrast, typically employ a paste-up metaphor. Each text or graphic element comprises a block or frame that the user can manipulate and place on the page. Such an approach tends to emphasize document design over content.

"In a page-layout system you have to know where you're going before you start," Johnson said. "You start with your structure. The text is essentially dead—it comes from another source, and you say this goes here, this goes there and you dump it all in."

According to Johnson, FullWrite's combination of features suits the typical text composition and page-layout tasks faced by most users who aren't graphic artists or typographers. But more complex page designs and sophisticated halftone graphics features are still the province of specialized page-layout programs.

"Where a page-layout system really sings is in the design of complex newsletters, newspapers and magazines, where you have articles that are broken up across various pages," said Johnson.

If users such as Michael Keithley, senior engineering planner at Northrop Corp. of Los Angeles, are typical, the merger of word processing and desktop publishing in FullWrite answers a genuine need. Keithley uses FullWrite to edit two personnel newsletters at the aerospace company.

"We've standardized on FullWrite as our regular word processor," Keithley said. Ashton-Tate's program has dethroned Microsoft Word as the office standard, and Keithley uses FullWrite for memos and house reports as well as for the newsletters, he said.

For the document formatting he needs to produce his newsletters, Keithley said he finds FullWrite more than adequate. He noted several other reasons for preferring FullWrite to Aldus PageMaker.

"FullWrite's kerning feature is, in my opinion, better and easier to use than PageMaker's. FullWrite is also much faster than PageMaker in doing things such as placing graphics, and it's got the accuracy, to one ten-thousandth of an inch, for just about all the commands. You also have the ability to keep a graphic right next to a piece of text, and you

can print line art in the background, with text on top of it," he said. PageMaker has the latter two features.

Two other features make FullWrite superior to PageMaker in Keithley's opinion. "The spelling checker and the search-and-replace command are very important features. Not only can you search for text, but you can search by case, by font, by style." Thus, changing 18-point Helvetica italic, for example, to a different font throughout a document would be easy in FullWrite, according to Keithley.

With FullWrite leapfrogging ahead of other Macintosh word processors in the page-layout department, its high-end competitors are playing catch up. Although their publishers claim that Microsoft Word and WordPerfect already handle many simple layout tasks, both companies are rushing to bolster document formatting in future versions of their products.

According to Jon Reingold, product manager for Word, mainstream business users are Microsoft's target market for Word. "We are not trying to be a page-layout program," he said.

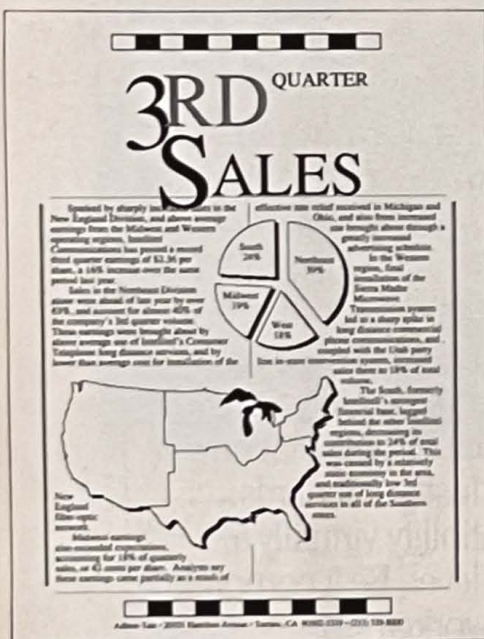
On the other hand, "A lot of people in offices have been asking for more ability to mix text and graphics and more ability to do layouts just in the normal course of their work," Reingold said. "We already have some page-layout features, and you'll see a lot more of them in Version 4.0," which is scheduled for release this fall.

Word's current incarnation, Version 3.02, "has the ability to put paragraphs side by side and to put borders around paragraphs. It can do vertical lines, and we treat graphics as characters, so you can put them in a line of text," Reingold said.

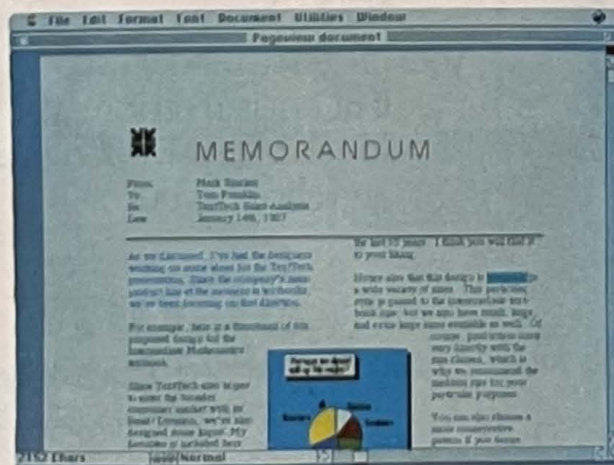
To such existing features, Word 4.0 will add "some key new layout features," he said. "We're adding support for absolute positioning of graphics on the page and for text wrap around rectangular graphics. You can add sidebars of text or customized borders around multiple paragraphs, and there's a tables feature that allows you to do any kind of grid-like layout very easily. You'll be able to do a lot of low-end page layout that had to be done in PageMaker before."

For its part, WordPerfect Corp. also plans to enhance the page-layout capabilities in future versions of its namesake word processor, according to Roger Bell, director of Apple products marketing at WordPerfect. Already, the Mac version of WordPerfect makes text columns "very easy to work with" and supports variable-width columns, he said. While WordPerfect doesn't permit completely free placement of graphics and does not automatically wrap text around graphics, it does per-

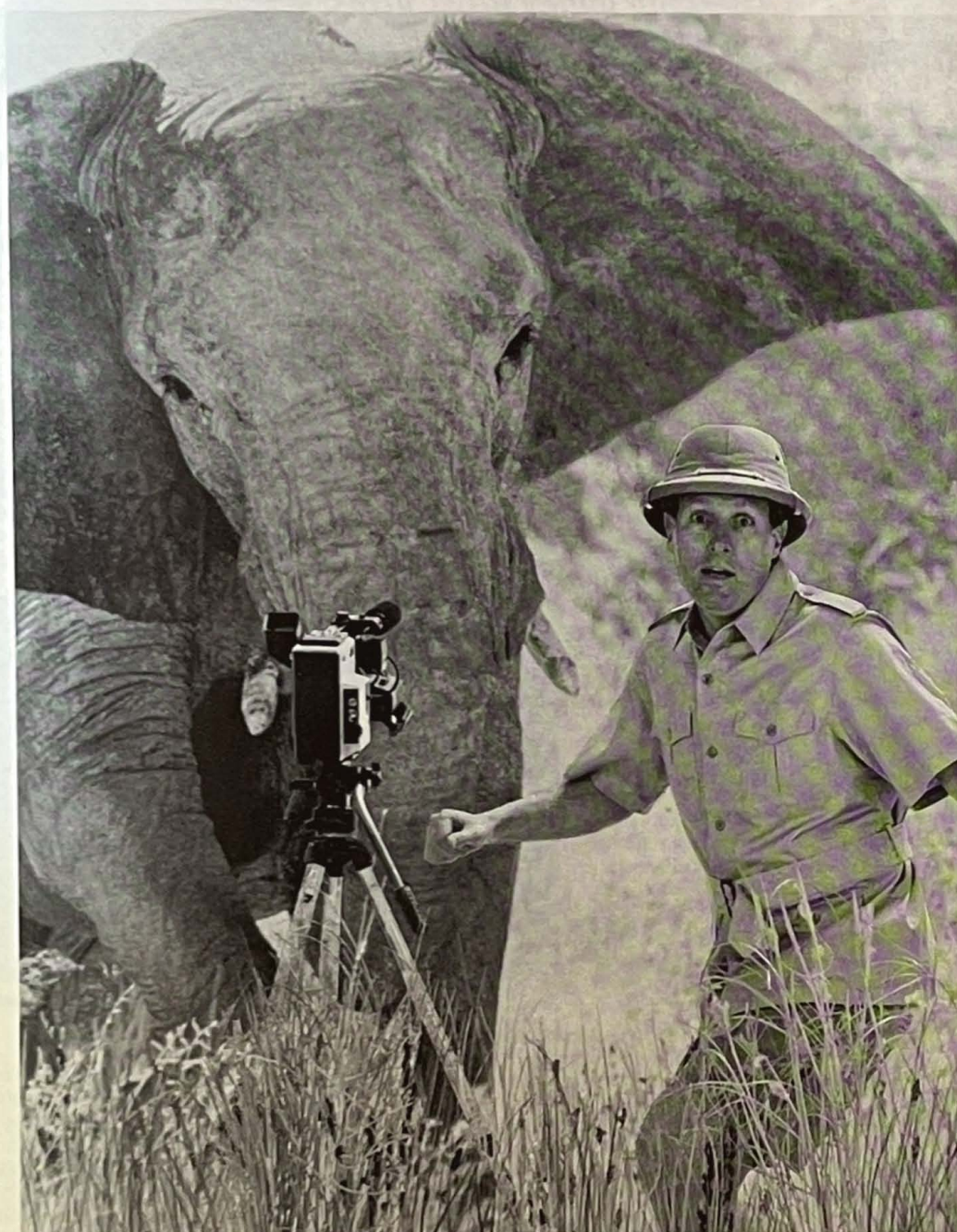
See WORD PROCESSING, Page 48



(Above) Ashton-Tate's FullWrite started the trend toward word processing programs with desktop publishing capabilities by adding features such as the ability to wrap text around graphics and create multi-column pages. (Right) Microsoft Word 4.0 will allow users to import color graphics, like the pie chart shown here.



Now you can capture any moving image in real-time on the Mac II.



Fred Molinari, President



Imagine capturing an elephant with a mouse! For the first time ever, **QuickCapture™** lets your Mac® II capture, display, process, and print real-life images from up to 4 video cameras or VCRs. Images can even be formatted to work with MacPaint®, MacDraw®, MacWrite®, Hypercard™, ImageStudio™, and PageMaker®.

QuickCapture™ also takes advantage of the Mac's high resolution screen by providing 640 x 480 square-pixel display with 256 grey levels.

Just \$1595 buys a **QuickCapture** frame grabber board and powerful image processing software.

And since **QuickCapture™** is made specifically for the Mac II, you'll get pull down menus, window prompts, and icons that make it easy to operate.

If you'd like to create unforgettable moving experiences on your Mac II, give us a call today.

(508) 481-3700

In Canada, call (800) 268-0427

APPLICATIONS BOX		
Business, Graphic Arts, and Entertainment	Scientific	Industrial
Animation Electronic prepress Electronic publishing Film colorization Picture databases Slidemaking Training	Astronomy Medical diagnostic imaging Microscopy Modeling Motion analysis Remote sensing Surveillance	Machine guidance Machine vision inspection -Agriculture -Cosmetics -Components -Foods -Textiles Robotics



FREE
1988 Image
Processing
Handbook Set

DATA TRANSLATION®

World Headquarters: Data Translation, Inc., 100 Locke Drive, Marlboro, MA 01752-1192 USA, (508) 481-3700 Tlx 951646

United Kingdom Headquarters: Data Translation Ltd., The Mulberry Business Park, Wokingham, Berkshire RG11 2QJ, U.K. (0734) 793838 Tlx 94011914

West Germany Headquarters: Data Translation GmbH, Stuttgarter Strasse 66, 7120 Bietigheim-Bissingen, West Germany 07142-54025

International Sales Offices: Australia (2) 662-4255; Belgium (2) 735-2135; Canada (416) 625-1907; Chile (2) 25-3689; China (408) 727-8222, (1) 868-721; Denmark (2) 274511; Finland (90) 372-144; France (1) 69077802; Greece (1) 951-4944, (31) 527-039, (1) 361-4300; Hong Kong (3) 771-8585; India (22) 23-1040; Israel (3) 32-4298; Italy (2) 82470-1; Japan (3) 348-8301, (3) 375-1551, (3) 355-1111; Korea (82) 756-9954; Morocco (9) 30-4181; Netherlands (70) 99-6360; New Zealand (9) 504759; Norway (2) 53 12 50; Peru (14) 31-8060; Philippines 818-0103; Portugal 545313; Singapore 7797621; South Africa (12) 46-9221; Spain (1) 455-8112; Sweden (8) 761-7820; Switzerland (1) 723-1410; Taiwan (2) 911-8419; United Kingdom (0734) 793838; West Germany 07142-54025

QuickCapture is a trademark and Data Translation is a registered trademark of Data Translation, Inc. Other brands and products are trademarks of their respective holders.

Continued from Page 46

mit side-by-side text and graphics, Bell said.

Whether or not FullWrite's most advanced page-layout and typographic features become standard throughout the high-end word processor market, it's clear that Mac word processors are tackling document formatting tasks that previously would have required true

page-layout software. For many users whose page-layout needs aren't extremely complex, a new generation of Mac word processors should provide all the desktop publishing power they need. □

Steve Cummings is a free-lance writer in Santa Cruz, Calif.

Desktop publishing on the fly

The Macintosh user who attempts simple page-layout tasks with a word processing program other than Ashton-Tate's FullWrite Professional faces a variety of challenges, most notably effective integration of graphics and text. With ingenuity and the help of a utility program or two, however, you can produce attractive illustrated documents without leaving the familiar environment of your word processor.

Getting graphics into a word processing document can be problematic. Page-layout programs typically provide commands for importing various types of graphics files, and usually include a set of basic line-drawing tools with which the user can create borders, rules and boxes. In contrast, word processing programs rarely offer any of these features.

Ordinary MacPaint and PICT graphics can be brought into a document via the Clipboard, but this method won't easily transfer other file formats such as Encapsulated PostScript (EPS) and Tag Image File Format (TIFF). Enter The Curator, a desk accessory that can perform the necessary file format translations on the fly.

"If a program doesn't accept EPS clip art, you can open the file with The Curator and copy the graphic to the Clipboard," said Lauren Cammann, marketing director of Solutions International, publisher of The Curator.

"The Curator puts a PICT image on the Clipboard, which you can paste into your word processor," she said. "The Curator tricks the system into retaining the original PostScript code with the PICT image, so you don't lose anything when you print on a LaserWriter."

Desk accessories can also supply the line-drawing tools missing from most word processors. With MacDraw-like DAs such as DeskDraw from Zedcor Inc., Ariz., you can create the necessary graphic, copy it to the Clipboard and paste it into the document without ever closing the text file.

In a page-layout program, an image can

be precisely cropped, reduced or enlarged, but most word processors don't have these capabilities. However, the Clipper, another Solutions International DA, can simulate them, according to Cammann. The Clipper provides an on-screen tool for measuring the space in which to insert a graphic. Graphics copied from other applications to the Clipboard can then be cropped or resized to fit before they are imported into the word processing file.

Once a properly sized graphic is on the Clipboard, pasting it into the text presents another problem. In MacWrite, for example, a graphic always takes up the entire width of the page, no matter how wide the image is, so text cannot be adjacent to graphics.

In other programs, such as Mountain View, Calif.-based T/Maker Co.'s WriteNow, images are treated as text characters. "WriteNow treats an imported graphic as a single character, so normally you can have only one line of a text horizontally across from the graphic," said Heidi Roizen, T/Maker's president. "By subscribing and changing line spacing you can trick it into doing more lines, but we usually tell people not to bother."

Microsoft Word 3.02 takes the same approach as WriteNow, but because it permits side-by-side paragraphs, users can add a single paragraph alongside a graphic, said Jon Reingold, product manager for Word at Microsoft Corp. Still, the program does not permit borders around entire pages or free placement of graphics across columns.

One simple way to get around the text-with-graphics limitations of all these word processors is to use a double-pass print method, according to Cliff Joyce, president of Dubl-Click Software, the Chatsworth, Calif., publisher of the WetPaint clip-art series. To print a page with bordered text, for example, you print the border and then feed the same page through the printer again to print the text. — By Steve Cummings

PRODUCT INFO

ALSoft Inc.

Font/DA Juggler Plus: \$59.95
P.O. Box 927
Spring, Texas 77383-0927
(713) 353-4090

Ashton-Tate

FullWrite Professional: \$395
20101 Hamilton Ave.
Torrance, Calif. 90502
(213) 329-8000

Berkeley System Design Inc.

Stepping Out II: \$95
1700 Shattuck Ave.
Berkeley, Calif. 94709
(415) 540-5536

Clarix Corp.

MacWrite 5.0: \$125;
upgrade: \$25
440 Clyde Ave.
Mountain View, Calif. 94043
(415) 960-1500

Microsoft Corp.

Microsoft Word 4.0: \$395 (to be released in late November)
16011 N.E. 36th Way
Redmond, Wash. 98073
(206) 882-8080; (800) 426-9400

Solutions International

The Curator: \$139.95;
SmartScrap and The Clipper: \$69.95
30 Commerce St.
Williston, Vt. 05495
(802) 658-5506

WordPerfect Corp.

WordPerfect for the Macintosh: \$395
1555 N. Technology Way
Orem, Utah 84057
(801) 225-5000

Zedcor Inc.

DeskPaint 2.0 & DeskDraw: \$129.95
4500 E. Speedway, Suite 22
Tucson, Ariz. 85712
(800) 482-4567; (602) 881-8101

Solutions/User Connection

Averting gooey label jams; emulating Tektronix terminals

Q I have an ImageWriter II, and I want to print labels: the one-up, gummed type with pin-feed backing. When the power is turned on, the ImageWriter sets the print head and reverses the platen, which causes the label to catch on the chrome pressure plate and stick, thus catching all subsequent labels, thus a jam, thus a mess, thus an hour to try to remove the labels and gum. Any suggestions?

Nick Condap
Los Angeles, Calif.

A I've had the same problem. In fact, I think I've still got bits of that gooey stuff stuck in my original ImageWriter printer.

This is a problem that hasn't missed the attention of the American data-processing supply industry. You can now buy and order labels that have had their gummed backing upgraded to take the pressure of being wrapped around a small diameter platen like that found in the ImageWriter II. When wound around the platen, most labels tend to pop up a bit, causing the problems you cited. Avery now offers List & Mail labels for microcomputers. It claims that these labels won't "lift off their backing and jam the printer." The cost of the special labels is more than twice that of regular labels. I've used this type of special label and had good results.

Q A group at the local university would like to know if there is a terminal program available for the Mac that will allow it to emulate the various types of Tektronix terminals. It can be either public domain or commercial. They are willing to pay a reasonable price for it. Any ideas?

George Kasica
West Allis, Wis.

A I highly recommend VersaTerm and VersaTerm Pro, both written by Lonnie R. Abelbeck and available from Peripherals Computers & Supplies in Reading, Pa.

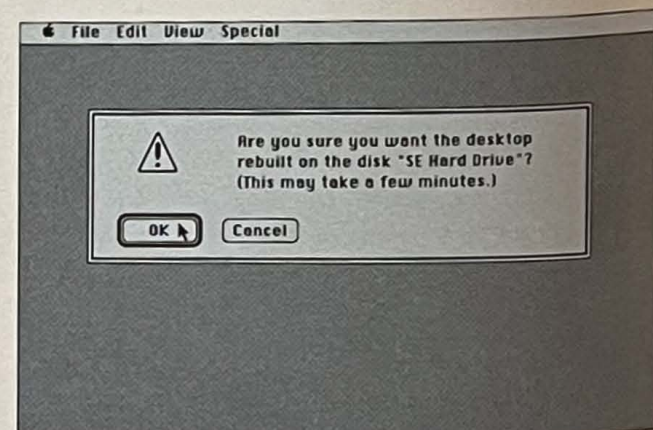
VersaTerm does excellent VT100 emulation and will also emulate the Tektronix 4014 terminal. The Pro version also supports the Tektronix 4105 color terminal and fully implements color on the Mac II. Both products are reasonably priced, but you pay about twice as much for the Pro version. Abelbeck has an excellent record of listening to his users and regularly upgrading his products.

There are two decent non-commercial Tektronix emulators available. GrafTerm v2.4 was written in 1986 but still seems to work. Look for it on information services and bulletin board systems. If you're using your Mac in an Ethernet environment and can connect to your machine with TCP/IP (Transmission Control Protocol/Internet Protocol) Telnet, check out Telnet v2.2 from the National Center for Supercomputer Activities at the University of Illinois. You can't use NCSA Telnet unless you are using a Kinetics FastPath gateway or internal Ethernet card.

Q After using Apple's Installer program to update to System 6.0.2, the icons for MacroMaker turned into the generic "document" icons. In addition, the icon in the upper right corner in MultiFinder is now the generic application icon rather than the "Finder" icon. Everything else seems to be working normally. Do you have any idea what is going on and how I can get the system to apply the correct icons?

Dave Eilers
Chicago, Ill.

A This is a common problem. There are a lot of reasons why this happens, and installing a new version of system software seems to be a frequent cause. Whenever



Rebuilding your desktop will replace generic icons with the correct Finder icons.

your documents seem to have lost their icons, rebuilding your desktop will solve the problem.

The safest way to rebuild your desktop is by restarting your machine without MultiFinder. Next, launch any application. Then quit the application and immediately hold down the Option and Command keys simultaneously. Answer affirmatively to the dialog shown in the illustration and go have a coffee break. It can take as long as five minutes to rebuild a 60-Mbyte disk.

The Finder will search your entire disk for application files that have icon resources in them. After it goes through the entire disk, it will link up documents that belong to your applications and assign the right icons to them. One bad side effect is that if you no longer have an application on your disk, any documents created by that missing application will wind up with blank generic icons after the rebuild.

Tip: Having to spend hours at a time in front of a black-and-white Mac screen really burns the eyes. I solved the problem by taping a sheet of yellow cellophane over the screen. Retinal screen burn is no more.

Joel Kohn
Berkeley, Calif.

If you have any questions or complaints about Apple, Macintosh products or any computer problems for that matter, I'm your answer man. The best way to get me is via electronic mail: Internet: vern@genie.gene.com; MCI Mail: VKEENAN. Also, you can catch me on EchoMac on the Macintosh Tribune BBS (125/444) at 415-923-1235. EchoMac is a worldwide Mac conference that connects dozens of local bulletin boards into a fairly active electronic community.

Limited Time Offer

Order a drive now and receive: SilverServer™

- Complete hard disk management utilities.
- Modem and disk server for use within your LAN.
- Remote disk server to share hard disks in another LAN or at home.
- Available separately for \$149.95.

also receive:

- Carrying case for Cirrus drives.
- Available separately for \$30.00.



CIRRUS. PERFORMANCE WITHOUT COMPROMISE.

30MB	40MB	70MB	NEW! 80MB	NEW! 100MB
\$549	\$699	\$899	\$1099	\$1249
3 1/2" SCSI Hard Disk 2 3/4 x 6 1/2 x 9 1/4" 40 ms access time. Wt: 4 1/2 lb	3 1/2" SCSI Hard Disk 2 3/4 x 6 1/2 x 9 1/4" 25 ms access time. Wt: 4 1/2 lb	3 1/2" SCSI Hard Disk 2 3/4 x 6 1/2 x 9 1/4" 25 ms access time. Wt: 4 1/2 lb	3 1/2" Quantum SCSI Hard Disk Includes DisCache™ 2 3/4 x 6 1/2 x 9 1/4" 18 ms access time. Wt: 4 1/2 lb	3 1/2" SCSI Hard Disk 2 3/4 x 6 1/2 x 9 1/4" 25 ms access time. Wt: 4 1/2 lb

"Simply put, Cirrus Drives are a joy to work with... simple, elegant and impressive performers."

**SPEED
RELIABILITY
QUIET OPERATION
COMPACT SIZE
POWERFUL SOFTWARE**

"Very small and lightweight, constructed of quality materials designed to last." The Macintosh Journal

Cirrus hard drives deliver power and speed without compromising reliability, ergonomics or desktop real estate. Superior 3 1/2" drive technology and high-volume half speed fan provide cool, quiet operation you can rely and rely on.

All Cirrus drives are compatible with the Mac II, SE and Plus and are backed by a one year limited warranty. We also make 30 to 100 MB internal drives for the Mac II and SE. Call for prices.

Cirrus drives are shipped preformatted and ready-to-use with 2 SCSI ports, power and SCSI cables, terminators, manual and SilverServer utility software. This powerful, comprehensive software package includes: Auto mounting, auto parking, password protection, diagnostics and powerful volume

sizing functions that let you freely partition your drive into one or more volumes, or combine several drives into a single large volume. Plus you

can change SCSI drivers and the interleave factor for extra speed.

When you order Cirrus Drives you also get SilverServer's exclusive new modem server, disk server and remote disk server so you can share modems and disks on an AppleTalk Network or even access hard disks over the phone!

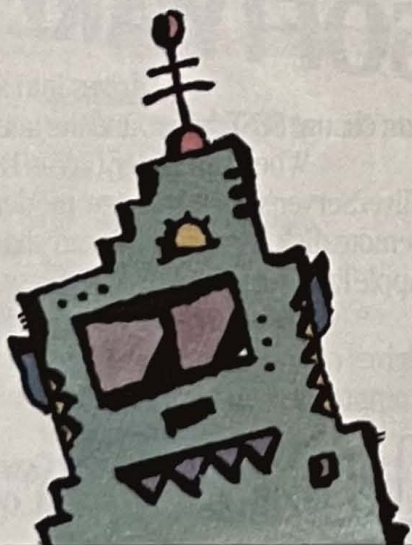
Try a Cirrus drive soon. For over 2 years we've built drives of uncompromising quality so you won't have to compromise on performance.

LaCie LTD. 16285 SW 85th • No. 306
Tigard, OR 97224 • Ph: (503) 684-0143

Order your Cirrus Drive today, call 1-800-999-0143

Prices shown are cash prices and do not include shipping. Add 3% for VISA or Mastercard. Add 7% for rush handling. Cirrus, La Cie and SilverServer are trademarks of La Cie Ltd. Macintosh and AppleTalk are trademarks of Apple Computer. DisCache and Quantum are trademarks of Quantum Corporation. Prices and specifications subject to change without notice. Excerpts reprinted with permission of Mac Journal.

NO SPACE INVADERS.



No amateurs or hobbyists, either. Because the 1988 Macintosh Business Conference and Expositionsm in Anaheim, CA, November 1 - 3, is designed to be strictly business. In other words, this is no place to look for the latest in inter-galactic war games.

Instead, it's the place for serious business and professional people to take a finely focused look at real-world Macintosh® business solutions - solutions that can give an immediate boost to your bottom line.

Already, the 1988 MBC&E has met with overwhelming enthusiasm from the entire Macintosh community. In fact, the show floor sold out in just eight weeks to a wide range of exhibitors who are ready to show you the last word in state-of-the-art Macintosh business and professional applications.

Not to mention the half-day training sessions and seminars featuring successful Macintosh users from a tremendous variety of disciplines like engineering, law, finance, media, graphics arts, and more. They'll explain how they're using Macintosh systems right now to get down to business like never before.

This is no time to play games. Send in the coupon or call 1-800-262-3378 (in Mass., 617-860-7100) for complete information.

The 1988 Macintosh Business Conference and Exposition.

Co-sponsored by *MacUser* magazine.

Strictly Business.

THE 1988 MACINTOSH BUSINESS CONFERENCE & EXPOSITION

Samples from the Conference.

Case Studies: The Macintosh Office
Case Studies: Corporate Training on the Mac
Shootout: Desktop Publishing Programs
Upgrading Your Macintosh
Power Desktop Presentations
Desktop Imaging: Scanners and Separators
Macintosh LANs: What's Ideal for You?
Connecting to MS-DOS
Connecting to DEC
CD-ROM's Impact in the Office
Shootout: CAD/CAM Programs
Utilities: Best Bets for the Office

Vertical Market and Corporate Application Briefings.

Accounting	Inventory Management
Advertising and PR	Law
Banking	Marketing
Distribution	Music and Entertainment
Engineering and Science	Publishing and Media
Finance	Real Estate
Government	Sales
Health Services	

The Business Calendar.

Due to popular demand, we're already scheduling additional Macintosh business shows for 1989.

New York, NY, April 17-19, 1989 (Javits)

Chicago, IL, June 20-22, 1989

Long Beach, CA, November 29-

December 1, 1989

Please send me more information about:

- ☐ Exhibiting ☐ Attending
☐ Attending special vertical market briefings.

Your profession _____

Name _____

Company _____

Address _____

City _____

State _____

Zip _____

() _____

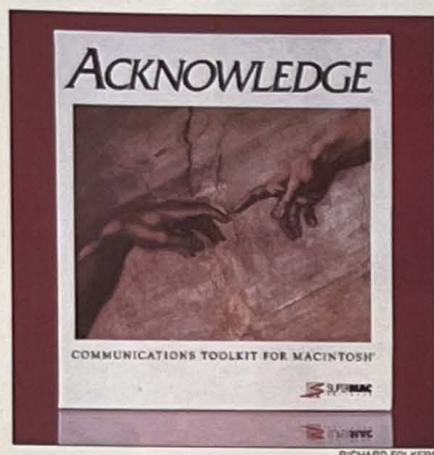
Phone _____

The Macintosh Business
Conference & Exposition
The Disneyland Hotel, Anaheim, CA
Mail to: Cambridge Marketing, Inc.
One Forbes Road
Lexington, MA 02173

YA

A 'communications construction kit'

Acknowledge makes customization easier



Acknowledge 1.0

SuperMac Software
295 N. Bernardo Ave.
Mountain View, Calif. 94043
(415) 964-9694
List price: \$495; Certified Developers
Fee: \$500 per year

➤ A true communications development environment for the Mac; goes far beyond the simple macro capabilities of telecom programs; excellent documentation.

➤ Intended for developers only; TAL contains an odd mixture of both Basic and Pascal; AckEdit must be used instead of the more common ResEdit.

BY DON CRABB

With Acknowledge, SuperMac Software hopes to do for communications what ACIUS' 4th Dimension has done for relational databases: Create the best programming environment for vertical market applications. In evaluating Acknowledge, we found that SuperMac has done an excellent job of turning that hope into reality.

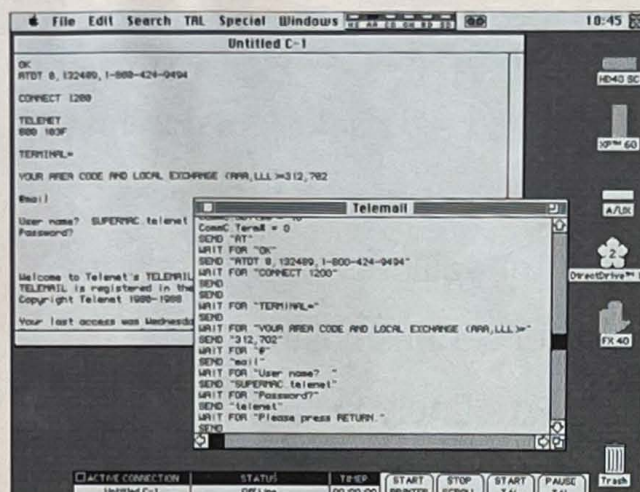
Acknowledge should not be confused with general communications programs like Microphone II or Red Ryder. For developers of custom communications software, Acknowledge

fills the gap between those ready-to-use applications and general development systems like Apple's Mac APPC and MacWorkstation. SuperMac calls Acknowledge a "communications construction kit for the Macintosh," and that is a fairly apt description of the program's capabilities.

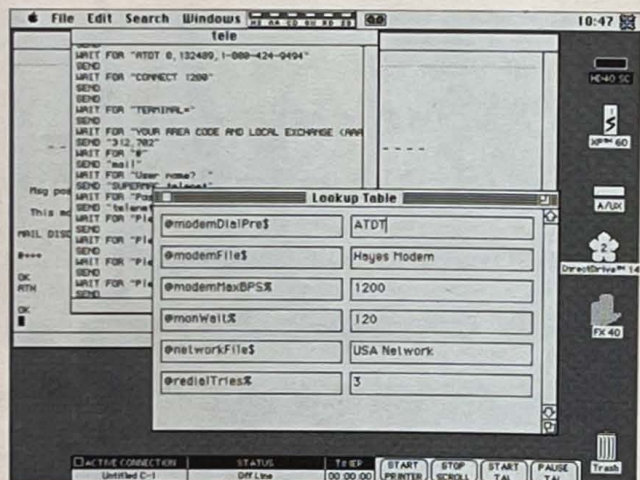
Acknowledge allows you to write custom applications that transparently connect your Mac to a host computer, usually a mini or a mainframe. And unlike Mac APPC and MacWorkstation — both of which require extensive host programming — Acknowledge works through communications magic alone. As long as you understand the communications commands and protocols supported by the host computer, you can put a familiar interface on a foreign host.

SuperMac just hints at some of the capabilities of the system in the manuals and application examples. And we admit that after a month of exploring the program, we are just beginning to fathom its potential uses. We expect that other developers will also need a familiarization period to grasp the significance of Acknowledge's capabilities.

Components of communication. Acknowledge consists of nine separate components that work together in a multiple-window development system. The components are connections; connection files; connection windows; menus; status bars; phone journals; look-up tables; service files; and TAL, the telecommunications access language.



The results of the Acknowledge application appear in one window and the TAL code in the other.



Constructing a custom look-up table with modem and network access parameters.

At the heart of any custom Acknowledge application are connections, which are small programs that perform some basic communications chore, such as dialing a remote computer, connecting to it and downloading from it. Connections can incorporate dialog boxes and pull-down menus that you create so the command structure of the host computer is hidden. The user of an Acknowledge connection should see only the familiar Macintosh interface.

Connection files store groups of individual connections. Each file has its own icon and can be launched independently. The organizational scheme for these collections is strictly up to the developer, who might choose to organize all connections for a particular host into one file.

Acknowledge always displays the Apple, File and Edit menus regardless of whether you are creating an application or have already built one. This means that every Acknowledge application will automatically support desk accessories, cutting, copying, pasting and file manipulation capabilities. Additional menus can be added to store the specific commands for the custom application.

In the Acknowledge environment, a status bar at the bottom of the screen displays information about the current connection being used and gives you control over printing, scrolling, resetting a connection and using TAL.

The phone journal automatically logs all communications activity made through an Acknowledge connection. It stores the date, time and duration of each call, as well as the phone number dialed, the specific service or

Continued on Page 56

THE WEEK IN REVIEWS

Cambridge Z88 portable hooks up to Mac

BY BECKY WARING

Those still waiting for Apple's laptop or unable to justify the purchase of a Colby or Dynamac portable will be interested in the battery-operated Cambridge Z88. At \$799, the Z88 MacPack, designed by Clive Sinclair, is much more powerful and versatile than the Tandy Model 102. It has 32 Kbytes of RAM, expandable to 3 Mbytes, and includes cables and software for direct connection with the Mac. Once the Z88 is connected, you can transfer text and database files back and forth. The notebook-size Z88 includes a modem port for communicating with on-line mail services or home-office mainframes. The ability to write memos, consult and update databases, and telecommunicate should satisfy most travelers, but proprietary software such as Basic, a word processor, spreadsheet, calendar, alarm clock and calculator is also included. Memory upgrades, modems and printers cost extra. Cambridge Direct is located at 1419 Lake Cook Road, Deerfield, Ill. 60015; (312) 564-5512.

HFS Backup gets upgrade. Personal Computer Peripherals Corp. has announced Version 3.0 of its popular HFS Backup, and it's a winner. PCPC has taken the best attributes of other backup utilities and integrated them into one neat package.

In this era of enormous hard disks, removable cartridge and tape drives, megafloppies, file servers and CD-ROMs, perhaps HFS Backup's most important new feature is its ability to archive any volume on the desktop to any other, including AppleShare servers.

Selection of specific files and folders to back up is very flexible, and you can choose either a floppy-conserving mode, where old versions of files are overwritten, or an incremental mode, where old versions are kept.

PCPC also has added two unique features: virus protection and storage of backup routines in macros. Version 3.0 is \$99 to new purchasers and \$35 for upgraders. PCPC is located at 4710 Eisenhower Blvd., Building A4, Tampa, Fla. 33634; (813) 886-5470.

Laser printer mailing labels. Laser printer owners have long had to battle with mailing labels that don't feed properly and that peel off and stick to the rollers inside the machine, resulting in costly repairs and downtime. Recognizing this, Avery has just expanded its laser label lineup and added a line of laser printer transparency film that is guaranteed not to jam or melt inside your expensive machinery.

Increased support for laser labels by database publishers makes them even more attractive. Both Microsoft File 2.0 and File-Maker II include templates for LaserWriter labels, making trial-and-error positioning passé. Microsoft Works owners need not feel left out; Works produces super three-across mailing labels with the help of a template included in WorksPlusCommand from Lundeen and Associates of Oakland, Calif. For more information on Avery's new labels, call (800) 541-5507. □

How to connect your Mac to an HP 3000, 9000, or 1000

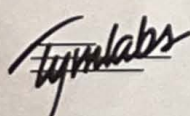
With **Session™**, the HP-to-Mac connection, you can connect your Mac to any HP system and get all the power of an HP terminal plus all the friendliness of the Mac. Each member of the Session family includes a fast file transfer facility. For HP users, there's no better choice.



Business Session
HP 2392 emulation.

Graphic Session
HP 2393 monochrome graphics.

Color Session
HP 2397 color graphics!

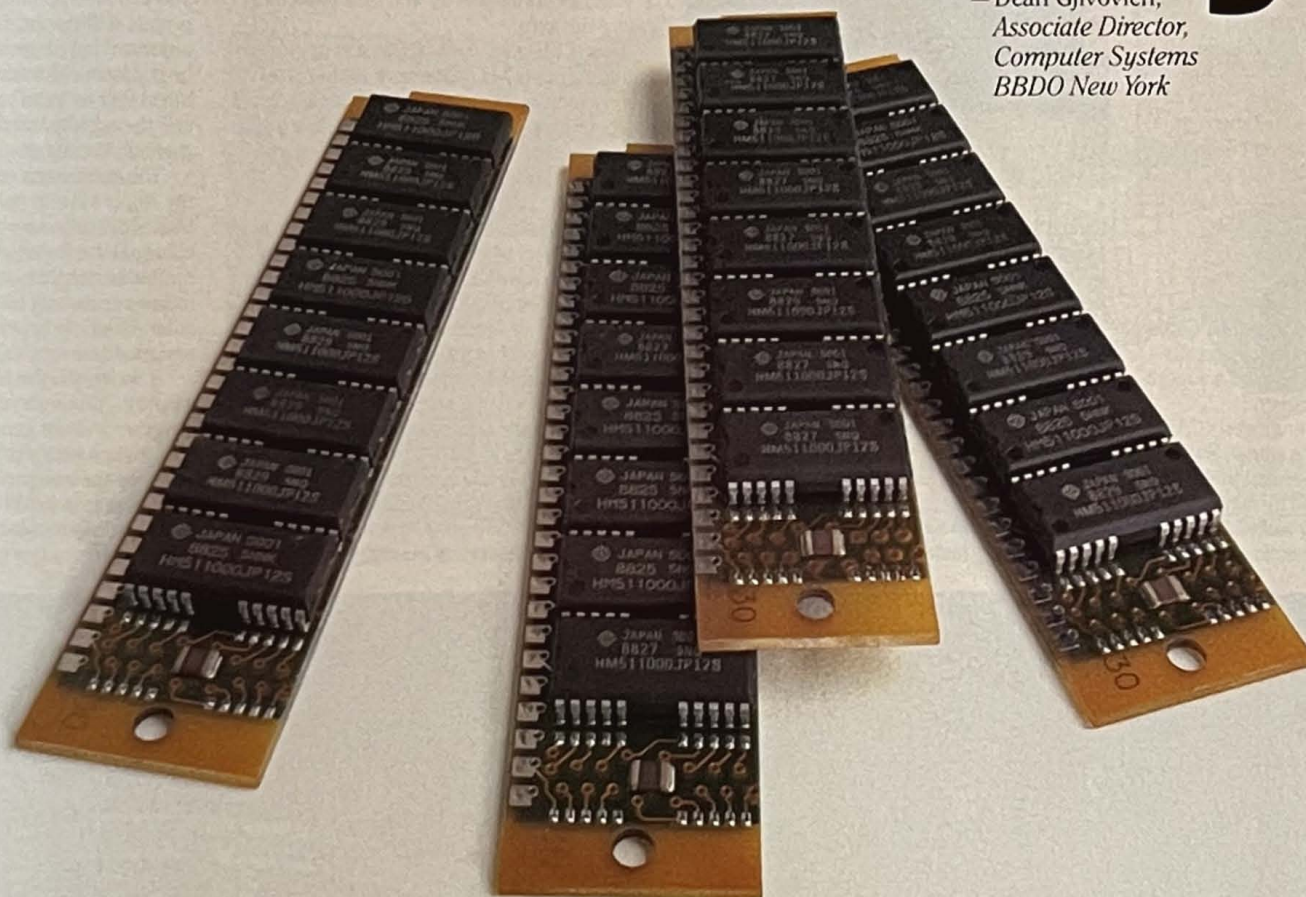


The industry leader in HP terminal emulation for Macintosh.

Tymlabs Corporation • 811 Barton Springs Road • Austin, Texas 78704, U.S.A. • (512) 478-0611 • Telex 755620
Wick Hill Associates Limited • 42A-44 High Street • Epsom, Surrey, England TW20 9DP • 0784-384411 • Telex 268764
Tymlabs APPIC • 123 Rue de Petit-Vaux • 91360 Episy sur Orge, France • (1) 64 54 87 37 • Telex 643013F
Megatec Pty. Ltd. • 2 Brunswick Road • Mitcham 3132 Victoria, Australia • (03) 874-3633 • Telex 152692

"Thanks for the memory."

—Dean Gjivovich,
Associate Director,
Computer Systems
BBDO New York



Dean Gjivovich buys Macintosh memory modules for one of the world's leading advertising agencies. And he buys a lot.

So who does he call? Who else, but the nation's leading supplier of Macintosh memory — Microtech!

In fact, we supply SIMMs to hundreds of memory-hungry companies across the country and throughout the world. From Westinghouse and WordPerfect, to General Electric and the U.S. Department of Energy.

They know we're ready to ship today — in quantity — straight from our inventory of 2 to 8 MB* SIMM kits for the Macintosh Plus, SE, and II.

We test, retest, then torture test each component we use. Once a Microtech SIMM leaves the factory, it never comes back.

Best of all, we price our SIMMs aggressively. As only the biggest independent suppliers of Macintosh

memory components can. Which means you get the best price possible, every time.

So if you need memory for your Macintosh — and you need it now — do what more and more companies are doing every day. Call Microtech, where there's no memory shortage at all.

 **MICROTECH**
INTERNATIONAL, INC.

29 Business Park Drive, Branford, CT 06405

1-800-325-1895
(203-488-7744 in CT)

Come see us at Booth 228 at the Macintosh Business Conference & Expo Anaheim, Nov. 1-3.

© 1988 Microtech International, Inc. WordPerfect is a registered trademark of WordPerfect. Macintosh Plus, SE, and II are trademarks of Apple Computer, Inc.
*8MB kits for Mac II only. Prices and availability subject to change without notice.

Paracomp offers users a new spin on 3-D

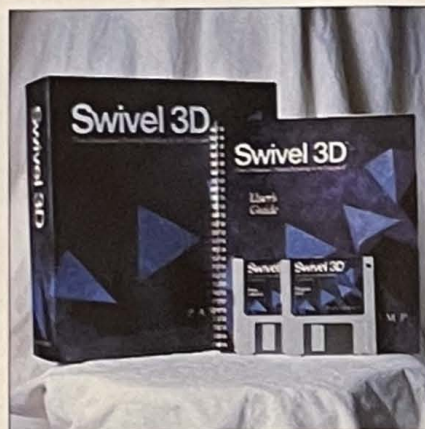
Swivel 3D

Paracomp Inc.
123 Townsend St., Suite 310
San Francisco, Calif. 94107
(415) 543-3848

List price: \$395

+ Full color; very fast; excellent user interface; movement and rotation constraints.

- Object construction sometimes confusing; single light source; doesn't work well under MultiFinder.



RICHARD TOLKERS

BY JOOST ROMEU

Swivel 3D, a color modeling program from Paracomp, is turning heads. Capable of constructing, rendering and animating color 3-D forms, Swivel 3D is a superb presentation tool for the designer.

Although it is neither an engineer's CAD application nor an illustrator's studio, Swivel 3D provides both the engineer and the illustrator with a tool to visualize and display complex 3-D objects and their moving parts.

And Swivel 3D is more than just a model

maker. It can present finished objects that look and move like their real-world counterparts, as well as enhance objects through various rendering modes, including shading. However, 3-D object orientation and construction can be confusing at first.

Designing objects. For object design, the first stage of 3-D modeling, Swivel 3D uses a four-panel window in which you create the top, side and cross-section wire-frame views of an object. The program generates the fourth view, a perspective wire frame, as you mold the first three.

Complex objects must be made up of simpler ones. A hand, for example, might contain a deflated sphere for the palm and back of the hand, a cylinder for each moving part of a finger and a half-cylinder for each fingernail. Swivel 3D lets you name objects and accurately control their position, inclination and movement.

Locating objects. Two-dimensional space is easy to understand. The objects you're working with are always in front of you on a flat plane. A simulated 3-D universe, on the other hand, can be a navigational nightmare because the viewer and the objects can be practically anywhere. With Swivel 3D, however, it's hard to get lost. You can call up a dialog box for any object that displays its numerical x, y and z coordinates as well as arrows indicating the axes.

Swivel 3D goes out of its way to make navigating through 3-D space easy. Rather than merely redraw the screen to indicate a rotated object or new vantage point, the program animates the change. If you lose an object, you can search for it by name.

Moving objects. You can make the parts of a complex object move realistically by linking object pairs. A locked link like a fingernail to fingertip, for example, binds the two objects completely. A ball-joint link fixes the object's relative position but leaves any movement constraints to you. Ball-joint links can range from the simple in/out of a push button to the complicated ball-and-socket movement of the thumb.

Although you can constrain the movement of each object, you cannot cause one object to affect another. For example, you cannot set a billiard ball in motion by moving a cue into it.

If you set the beginning and ending positions and the number of in-between frames, however, the program will animate the movement of that object and its components. Animated sequences can be sent frame by frame directly into the Scrapbook or saved as PICS (a multiple-image animation format) files for playback by MacroMind Inc.'s VideoWorks animation program.

Rendering objects. Swivel 3D can show complete frame works, wire frames with hidden lines removed and contoured objects. However, its most impressive rendering effect depicts solid shaded objects throwing shadows. To change shading, you can relocate Swivel 3D's single light source.

Swivel 3D's projection capability is unique. You can take an image from the Clipboard and project it like a light source onto your 3-D objects. This projection capability should not be confused with texture mapping, which is the ability to "map" an image onto an object and then rotate the object to see different parts of the image.

You can assign each object any color from the Apple system palette. However, because Swivel 3D uses only the standard Apple 256-color palette for object shading, some colors render better than others. Paracomp said that future versions of Swivel 3D will optimize the color palette to provide more shades of any assigned hue.

A Swivel 3D file is intended for screen viewing. Although you can print an image, the program will not generate color separations. To produce better printed illustrations or to enhance the image on screen, save the Swivel 3D image in color PICT or MacPaint format and open it in a color graphics or page-layout application.



Memory requirements. Swivel 3D will run on a Mac Plus with 1 Mbyte of RAM. However, to run full color on a Macintosh II, 2 Mbytes are recommended. The program automatically reallocates your on-screen work space depending on available memory. For example, if you open two files simultaneously, you might find the size of each window automatically reduced. The program runs under MultiFinder but is not MultiFinder friendly. In other words, you cannot render objects in the background, and we experienced several system crashes. Swivel 3D also has problems with some network environments like AppleShare and TOPS. Paracomp has admitted the problems and will be sending a free upgrade to registered users that addresses them and adds significant new features.

Interface. All Swivel 3D users will benefit from the program's highly intuitive interface. Even beginners will find object construction more a sculpting experience than an engineering exercise. Swivel 3D's amazingly fast update speed is crucial because constructing some objects requires extensive trial and error.

Realizing that an engineer might prefer a program that constructs objects through the more direct inputting of dimensions, Swivel 3D includes a Command File Language so that advanced users can write scripts that create and move objects. Documentation for the language is available on request from Paracomp.

Documentation. Swivel 3D's standard documentation is an engaging introduction to 3-D modeling. But ambiguous references, misleading screen dumps and a meager index make the manual a disappointing testament to

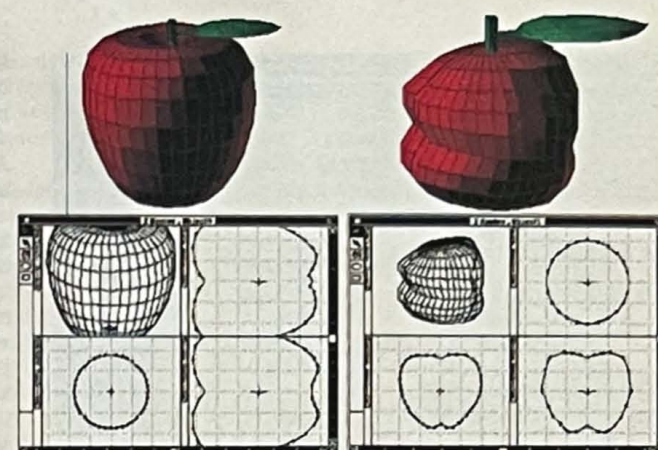
Swivel 3D's finer points. Operating the program and inspecting the example files are the best way to learn.

Conclusions. Because of its speed, color capabilities and excellent interface, Swivel 3D is a superb product for non-engineers who want to work with 3-D graphics. True texture mapping, anti-aliasing (automatically smoothing jaggies through subtle color changes) and multilight sources are features still on our wish list, but Paracomp has said that these are all under consideration.

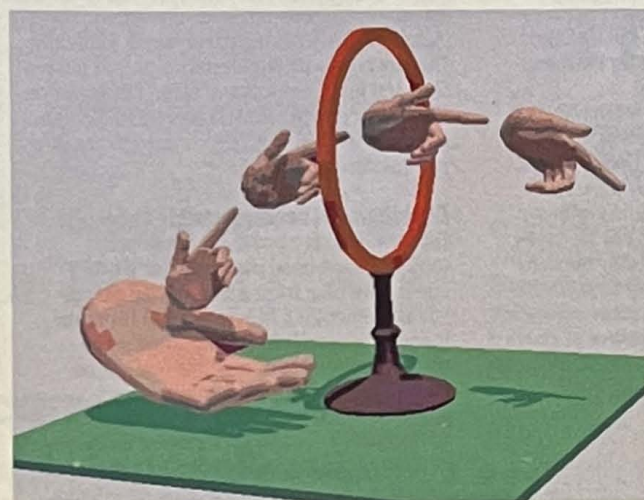
Simulating objects in 3-D is a task eminently suited to the more powerful personal computers now available. Provided with a single complete description, a computer

should be able to construct it from any point of view and allow easy movement through 3-D space. By doing this quickly, accurately and beautifully, Swivel 3D raises the standard of 3-D graphics on the Macintosh. □

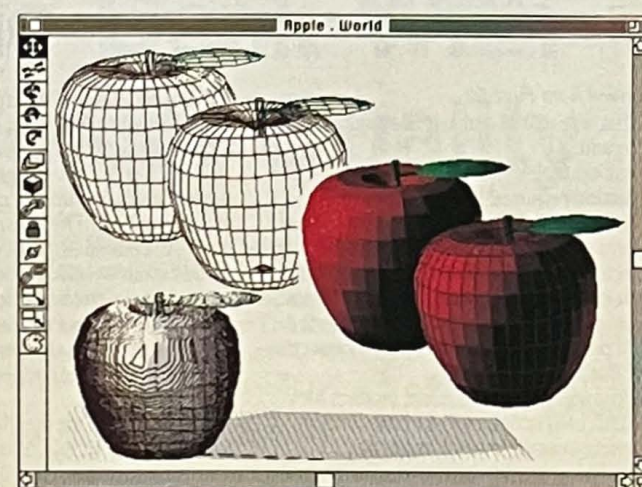
Joost Romeu is an illustrator, writer and consultant specializing in courtroom and corporate graphics.



The apple on the right was drawn using the "normal" top, side and cross-sectional views, but the apple on the left is more realistic.



This rendering shows Swivel 3D's shading and rotational capabilities.



Swivel 3D's rendering modes include wire frame, solid and contour.

HIGH PERFORMANCE TO THE MACS.

Plug a 330-megabyte MacDisk™ drive into your Mac®, and scream through all the high-performance applications you want. No stalling. No bottlenecks.

Programs load in about 20 milliseconds. Data transfers at up to 1.3 megabytes per second.

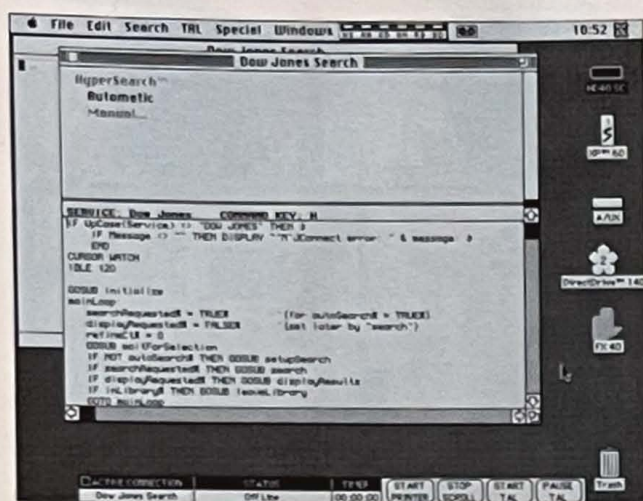
And MacDisk is already formatted, so it's out of the box, hooked into your Mac's SCSI port and ready to go in about two minutes.

With certification at a whopping 40,000-hour Mean Time Between Failure, you'll make tracks for a long, long time before you have to think about it again.

Call now, and get your Mac off the blocks with a 40-Mb, 65-Mb, 100-Mb, 230-Mb or 330-Mb MacDisk high-performance storage system. 800-345-9242, Dept. 244. In California, 714-545-2774, Dept. 244.



MacDisk is a trademark, and PRIAM is a registered trademark of PRIAM Corporation. Mac and Macintosh are registered trademarks of Apple Computer, Inc. ©1988 PRIAM Corporation



The TAL programming window open to a sample Acknowledge application.

Continued from Page 52

host that was called and any custom notes you care to add.

Look-up tables store all critical connection information required by an Acknowledge application, including IDs, passwords, phone numbers and similar information. These tables can be made to hide confidential information, or they can be written only to floppy disks and require that the disks be inserted when a particular communications connection is run (for further security).

Acknowledge's service and modem files store TAL instructions for specific connections using certain kinds of modems.

The TAL language itself includes more than 170 commands, and its syntax is reminiscent of both Pascal and Basic. The following code segment from a TAL script shows the resemblance:

```
IF UpCase(Service) <> "DOW JONES" THEN
  IF Message <> "" THEN DISPLAY
  "M-JConnect error: " & message:
  END
CURSOR WATCH
IDLE 120

GOSUB initialize
mainLoop:
searchRequested = TRUE!
...
```

Building an application. Despite the many components that constitute Acknowledge, the overall development environment provides a strong unifying concept for the communications programmer. The TAL editor window, for example, is a model of clarity and simplicity. The top of the window shows you a hierarchical list of the menu currently being built, while the bottom is the actual TAL code that will be linked to the specific menu item.

Not all of your TAL code will have to be created by hand. The program supports a "watch me" recording mode that captures the exact sequence of events that occur when you communicate manually with a particular host. The recording mode saves the TAL commands generated by the communications sessions. You can then edit, borrow and rearrange these recorded statements into the specific TAL code you need. This recording mode greatly simplifies the creation of applications, especially ad hoc ones.

The process for creating a TAL program is really quite simple. You must open an empty connection, invoke the status bar to control the TAL window, set communications parameters (stop bits, parity, baud rate and the like), define a custom menu item and then write the associated TAL code yourself or capture it during a live communications session.

Once you've created some code, you can try to run that code and debug it in real time. The debugger window displays the entire TAL script as it is executed, highlighting each line while the connection window displays the connection to the host as it occurs.

To further enhance your application,

you can create dialog boxes using Acknowledge's DBOX command. For advanced applications and fancy interfaces, however, you would use a separate resource editor called AckEdit.

AckEdit is not compatible with MultiFinder and shouldn't be used by programming novices. Also, you should not use other resource editors, like Apple's ResEdit, when working with Acknowledge, since they won't verify the changes you have made to Acknowledge resources. For example, ResEdit simply won't detect errors that might occur when you make a connection.

These steps oversimplify the development process, but they do point out that much of the system is easy to learn. Learning bottlenecks do occur, however, when you begin building the kinds of complicated applications for which the software is ideally suited. The Acknowledge learning curve starts gradually, then increases its angle sharply as you get further and further into the system. Once you've hit the learning plateau, however, you'll have assimilated most of what you need to create any custom application.

Development requirements. Although Acknowledge is a powerful developer's tool, you don't need a loaded Mac IIx to run it. Anything from a Mac 512KE on up will do, although 1 Mbyte of RAM is recommended. You will need more RAM if you plan to do the kind of multiple-application context switching that most developers engage in under the MultiFinder. Since Acknowledge creates six different kinds of files per application, you'll also want a fast hard disk that stores at least 40 Mbytes. Lastly, you need a modem or hardware interface linking your Mac to the host computer that your Acknowledge application will communicate with and control.

Using Acknowledge. During a month of testing, we never had a problem with Acknowledge. We suffered no program error messages, no system errors and no data losses. We can't remember the last time a developer's environment worked so smoothly on the first use. SuperMac has done a good job of removing the dangerous bugs. Acknow-

ledge proved to be a very hospitable environment. It worked under MultiFinder with no histrionics and even took the notoriously buggy System 6.0 in stride. (Most of our development tests were done using 6.0.2, however, because we don't like to live so dangerously.) Under MultiFinder, Acknowledge's default memory allocation is 450 Kbytes, and we had no out-of-memory errors when we left

Continued on next page

But who uses Acknowledge?

Acknowledge is aimed squarely at communications software developers: internal corporate developers and external consultants. In a recent phone conversation with Steve Lemme of Acknowledge Developer Services, we discussed some of the issues facing current and potential Acknowledge developers.

One of the rumors circulating among Mac developers is that Acknowledge is too complicated a system to get up and running quickly, and so development efforts have been thwarted. According to Lemme, however, "nothing could be further from the truth."

"The reason you don't see a lot of on-line discussion on the CompuServe MAUG or GENie about Acknowledge is because developers are too busy developing," he said. Our own investigation of these two on-line services, as well as Bix and MacNet, revealed that very little information is being shared publicly about Acknowledge development. But we do know that Acknowledge development work is going on, even if it's a bit hard to uncover.

Part of the problem with the false perceptions about Acknowledge, Lemme said, is that "SuperMac's intention is not to claim a large group of developers just to collect the \$500 per year certified developer fee. We have a fairly stringent developer certification process, so not everyone can qualify. What we're trying to do is assemble a solid group of good developers and give them all the help we can."

"Hopefully next year, we'll publish a directory of all of our certified developers and a directory of their Acknowledge applications," he said.

The Acknowledge developer certification process requires that potential developers describe the project or projects for which they plan to use the program, their experience as Mac developers and communications specialists, and other basic information. Once this application is received, "we help these potential developers get it right so we can accept them," Lemme said.

The annual certified developers' fee includes a license for 250 copies of the Acknowledge runtime, which is available only to certified developers. They also may license additional runtimes for \$10 each. SuperMac intends to provide developer support akin to ACIUS' model, offering tech notes, special mailings and a technical hot line.

"While the current group of Acknowledge developers isn't large, it's definitely producing some good programs," Lemme said. Since Acknowledge was released with little fanfare in July and its first advertising won't appear until later this month (and even those ads are scheduled only for MacTutor, a developer's journal), SuperMac seems content to bring Acknowledge to the attention of competent communications developers. — By Don Crabb

We tear up the competition on both price and quality

Hardware House, Inc., introduces **MAX**, a new series of 40 and 80mb hard drives for the MAC SE and MAC II, utilizing state-of-the-art 3 1/2" mechanisms from QUANTUM.

MAX is the fastest drive available with an effective access time of 12 ms. Track-to-track averages 6 ms and the interleave is 1:1.

MAX is easily installed, portable, shock protected to 60g, and weighs less than 2 pounds.

MAX is complete with cables, driver and utility software, and full instructions.

MAX is dependable, with a 30-day money-back guarantee and a 2-year warranty. Mean time between failure is 50,000 hours.

Hardware House, Inc. offers **MAX** at factory-direct prices.

\$647⁰⁰ for 40mb

\$977⁰⁰ for 80mb



MAX

Hardware House, Inc.

3637 Locust St., Philadelphia, PA 19104

CALL TOLL FREE
800-356-2892

MC/VISA Accepted

You will not be charged until order is shipped.
Prices subject to change without notice.

Continued from previous page
it at 450 Kbytes. For larger projects, however, you may want to increase its RAM partition.

Documentation and support. The Acknowledge manuals proved to be a pleasant surprise. Having dealt before with incomplete or unreadable programming documentation for the Mac, we were pleased to find none of these problems with Acknowledge's manuals or its limited but competent on-line help. The package includes three manuals: a user's manual, programmer's manual and TAL reference manual. Taken together, they teach you how to install and use Acknowledge as well as how to program

in TAL and create your own Acknowledge applications.

Our only complaint is with the programmer's manual. It doesn't offer enough specific tutorial examples for the beginning TAL/Acknowledge developer. Still, this is a minor complaint against otherwise professional documentation.

Support. SuperMac encourages any serious Acknowledge developer to enroll in its certified developer's program (see story, previous page). For a yearly fee, developers receive 250 runtime licenses, special technical notes, a telephone hot line and other goodies. Although we did not enroll in the certified

developer's program, we called SuperMac anonymously on several occasions to resolve technical questions, and its technical representatives handled the questions well.

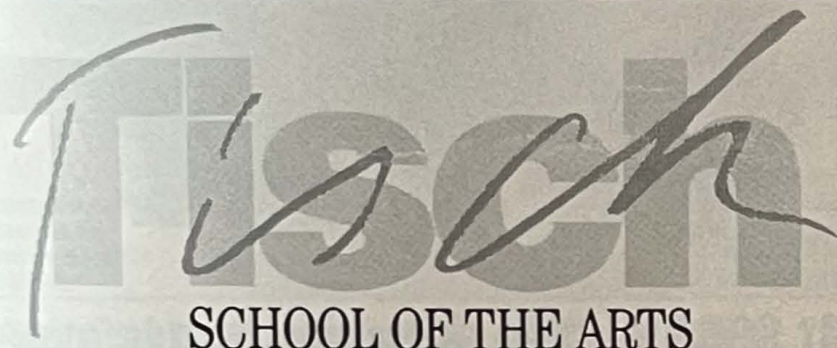
Conclusions. Acknowledge proved to be a solid product during our testing, and we were able to build simple applications quickly. However, we did run into Acknowledge's learning curve, which can be steep in a few places. Still, a complicated application for connecting to a Sun file server and running electronic mail proved to be far easier to design and prototype than if we had not used Acknowledge.

Acknowledge should find strong markets

in at least two areas: companies that must develop custom internal Mac communications solutions and private developers interested in client business or in selling custom communications applications to a wide audience.

Acknowledge is not for everyone. Like Mac APPC or MacWorkStation, it's not even for most programmers. But if you intend to do customized communications development on the Macintosh, there's no substitute. □

Don Crabb is a senior lecturer for the department of computer science at the University of Chicago and a contributing editor to MacWEEK.



SCHOOL OF THE ARTS

Interactive Telecommunications

Exploring Applications of New Media...

We are witnessing the creation of a new kind of electronic medium—one that offers the possibility of integrating video, photography, graphics, music, and text with digital technology.

The Interactive Telecommunications Program, committed to exploring applications of these new media is a unique master's program in the Tisch School of the Arts. Because the field of new media and communications is rapidly changing, the program provides a base of knowledge on which to build. Using a multi-dimensional approach, the curriculum emphasizes hands-on laboratory work incorporated with theory and seminar discussion. Aesthetic values and humanistic concerns develop from a historical perspective with emphasis on social and ethical issues.

The Interactive Telecommunications Program—for the explorers, creators, entrepreneurs, and interface designers of media to come.

For more information, return the coupon below or call (212) 998-1880.

NEW YORK UNIVERSITY
A PRIVATE UNIVERSITY IN THE PUBLIC SERVICE

Interactive
Telecommunications Program
Tisch School of the Arts
New York University
721 Broadway, 4th Floor
New York, N.Y. 10003

Attn.: Red Burns

Please send me information about the Interactive Telecommunications Program.
☐ Master's Degree Program ☐ Summer Sessions

Name _____

Address _____

City _____

State/Zip Code _____

Telephone _____

New York University is an affirmative action/equal opportunity institution.

MacWEEK 10/11/88

The Desk With Magical Quality

Even Houdini would've been impressed with the new **Manifesto Executive Desk/Workstation**! With the mere press of a button or the turn of a key your computer lifts up, ready for work. Finished? Push the button again and down it goes, desktop flush! Your high quality executive desk transforms itself instantly into a hi-tech work station with your computer (Mac, IBM, or clone) safely inside the automatic pedestal.

Your printer & supplies get plenty of space in their own easy glide drawer...it even accommodates your laser printer!

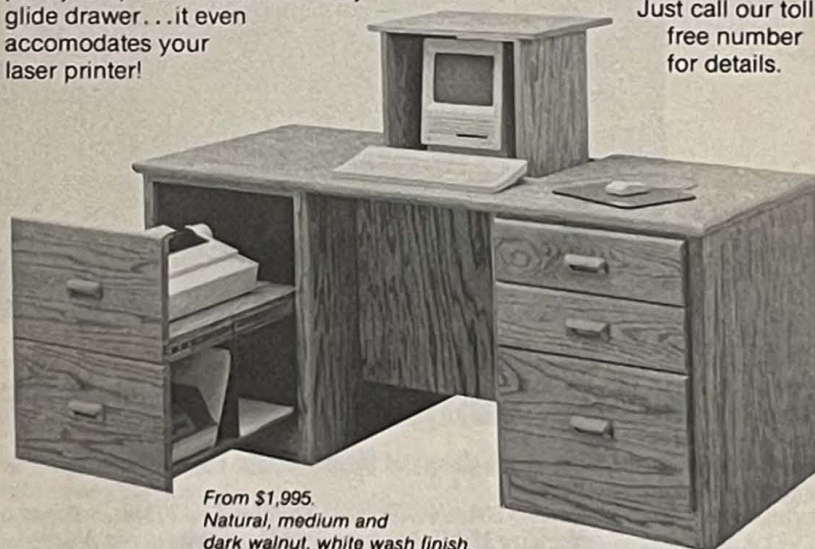
And here's some more magic... **Quality!** The **Manifesto** is hand-made of oak—not particle board. And each desk is hand-rubbed with a Danish oil finish for long lasting and functional beauty!

Oh yes...lest we forget. There's one MORE bit of magic in our bag of tricks:

FREE SOFTWARE!

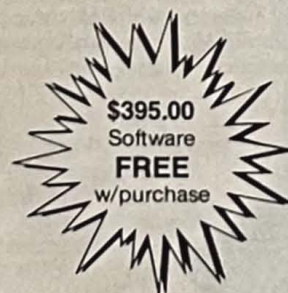
Buy a **Manifesto Executive Desk/Workstation** and we'll treat you to \$395.00 worth of your favorite software!

Just call our toll free number for details.



From \$1,995.
Natural, medium and dark walnut, white wash finish.

Free software, free call and a free fact-filled full color brochure! Call today.



the
Manifesto

1-800-446-5991 (outside CA)

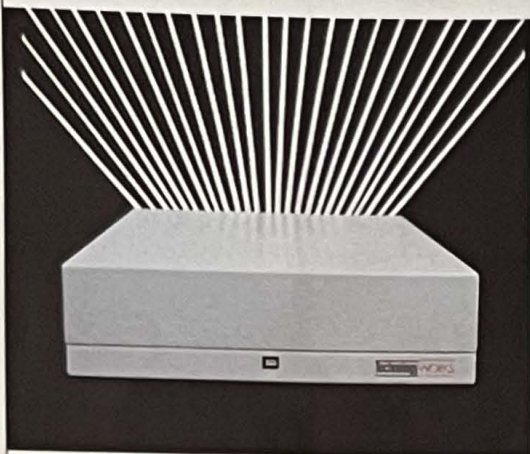
619-466-5991 (within CA)

Or write: Sunrise Technologies • P.O. Box 1742
• 3715 Corona St., #6 • La Mesa, CA 92041

See us at the **MacWorld Expo** in January '89
Booth 5405 in
Brooks Hall

The Manifesto is a registered trademark of Sunrise Technologies. The Manifesto design patent-pending. Macintosh is a registered trademark of Apple Computer, Inc. IBM is a trademark of International Business Machines. Dealer inquiries are most welcome. Allow 2-4 weeks for delivery.

Hard drive kits



External SCSI kit \$249
Complete with attractive metal case, whisper quiet fan, power supply, and Mac SCSI cable. Will hold one 5.25 inch or one 3.5 inch SCSI drive unit (not included). No soldering. HyperCard instructions make assembly a snap!

Internal Mac II mounting kit \$39
Includes mounting bracket for one 5.25 inch or two 3.5 inch drives, power cable, and SCSI ribbon cable. No soldering required.

Call for low prices on MiniScribe, Quantum, Conner, and CDC Wren drives. Dealer and User Group discounts available. 30 day money-back guarantee. Two year warranty. Visa, MasterCard, AMEX, checks

Technology Works
2111 Dickson Dr.
Austin, Texas 78704
(512) 448-4133

Print any label with any printer

From mailing lists to disk labels, you can now turn all of your labeling chores over to one program: FastLabel.

With the click of a mouse button, FastLabel prints labels of all sizes on both ImageWriter and LaserWriter printers (e.g. all Avery labels, disk labels, VCR labels, postcards, envelopes, name badges, etc.).

FastLabel is available from dealers or directly from Vertical Solutions.



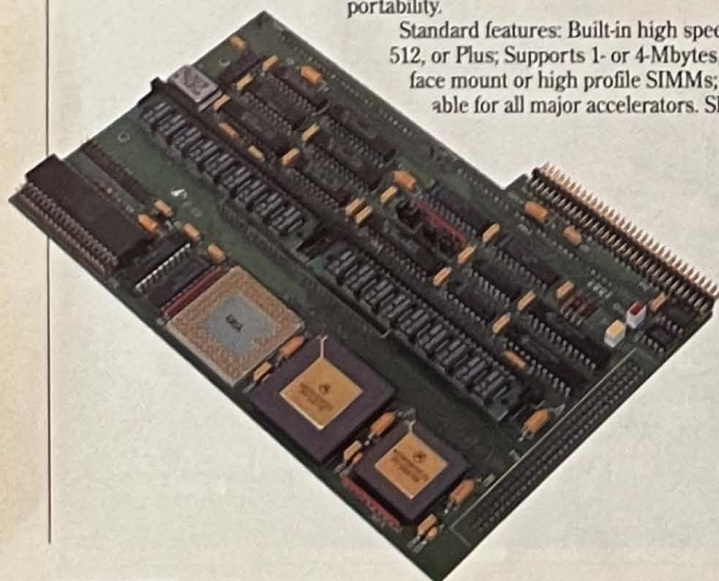
Vertical Solutions, P.O. Box 7535, Olympia, Wash. 98507 1(800) 842-4008

68030 Now!

Gemini 020/030 is the only accelerator available that fits the 128, 512, Plus and SE by only changing the connector.

Starting at \$995, it offers choices of 68030/68020; 68882/68881; and 16/20 Mhz, matching or exceeding Mac II performance while maintaining your Mac's portability.

Standard features: Built-in high speed SCSI for the 128, 512, or Plus; Supports 1- or 4-Mbytes, 32 bit RAM using surface mount or high profile SIMMs; Trade-up policy available for all major accelerators. Shipping now!



Total Systems Integration
P.O. Box 1607
Eugene, Ore. 97440
(800) 874-2288
(503) 345-7395

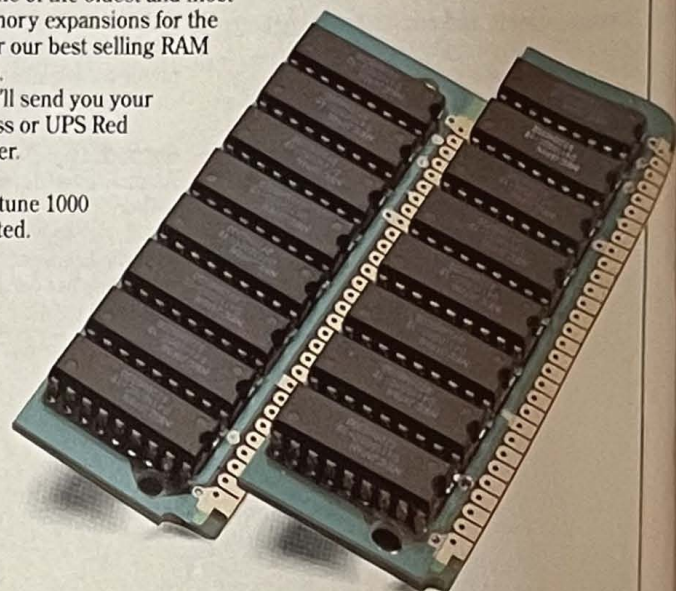
RAM in 48 hours! Guaranteed!

OPEN MAC Enterprises, one of the oldest and most consistent suppliers of memory expansions for the Macintosh, is proud to offer our best selling RAM products for the Macintosh.

Our pricing is great and we'll send you your memory via Federal Express or UPS Red within 48 hours of your order.

Plus great prices!

Call now! Government, Fortune 1000 and Educational POs accepted.



Open Mac Enterprises
2280 Bates Ave. Suite J
Concord, Calif. 94520
(415) 682-0440
Fax: (415) 686-4244

At \$999 — the scanner war is over

New Image Technology blows away the competition with a Canon...a Canon IX-12 page scanner with MacScan interface and software.

- 300d.p.i.; line art and halftone modes
- Gray scale upgradable
- High speed; less than 15 seconds
- Saves in eleven different formats
- Complete 300 d.p.i. editing toolbox
- Macintosh Plus, SE, and II compatible
- OCR software available for \$395

Call for the dealer nearest you.



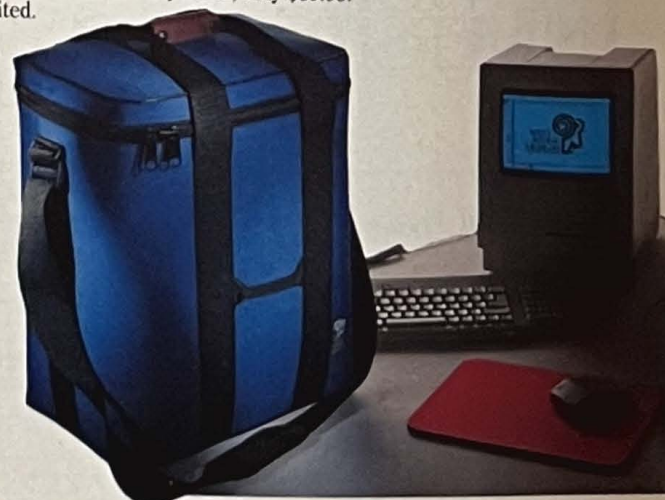
New Image Technology, Inc.
9701 Philadelphia Court
Lanham, Md. 20708
(301) 731-2000
Fax: (301) 731-4760

Pack your Mac in seconds

Cordura case fits Macintosh Plus and SE. Padded interior compartments protect and organize your Mac's keyboard, mouse, and exterior drive. It's easy to carry with leather handle grip and adjustable, non-slip shoulder strap.

Guarantee: If you are not completely satisfied, return within 10 days for full refund. Six colors; black, burgundy, charcoal, navy, royal and platinum. Mac Plus/SE Case, Style #3602, only \$79.95. New! Style #3603, fits extended keyboard, only \$89.95.

Dealer inquiries invited.



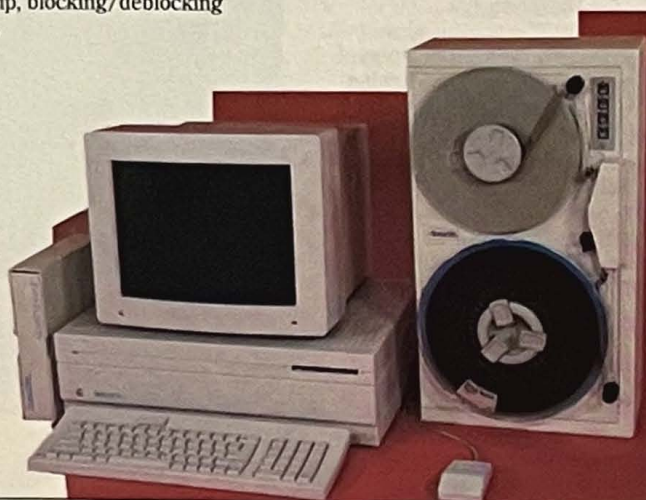
West Ridge Designs, Inc.
1236 N.W. Flanders
Portland, Ore. 97209
1(800) 548-0053

9-track tape subsystem for the Mac

Bridge the Macintosh communications gap with mainframes, minicomputers, microcomputers and networks. Qualstar's proven half-inch nine-track MINISTREAMER tape subsystem brings full ANSI data interchange to the Macintosh via your SCSI interface port. Now you can exchange data files with virtually any other computer using industry standard 1600 BPI (bits per inch) or 6250 BPI tape. Exclusive QUTAPE software includes ASCII/EBCDIC data conversion, data transfer, screen dump, blocking/deblocking and disk backup utilities.

Discover the many advantages nine-track tape has over other micro-mainframe links. Call us today!

Qualstar Corporation
8621 Iroindale Ave.
Chatsworth, Calif. 91311
(818) 882-5822

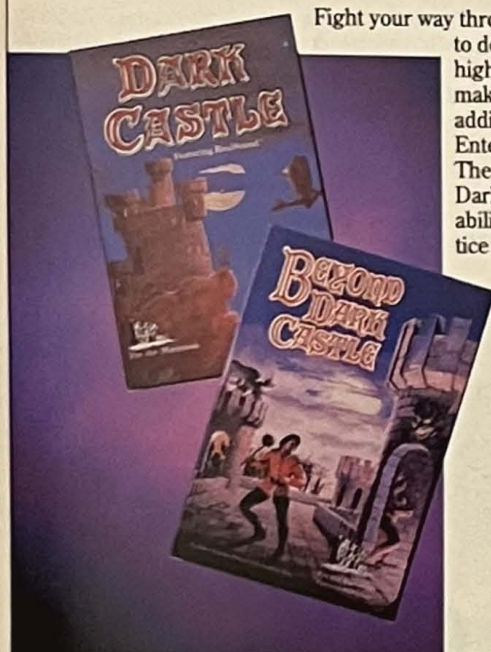


Dark Castle/Beyond Dark Castle

Fight your way through the Dark Castle searching for weapons to dethrone the Black Knight! Digitized sound, highly detailed graphics and smooth animation make this arcade-style game one of the most addictive ever — and winner of MacUser's Best Entertainment award for 1987.

The eagerly awaited sequel to the best selling Dark Castle, Beyond Dark Castle features the ability to save games in progress and a new practice mode where you can hone your skills. Also featured are full-screen scrolling effects and Macintosh II compatibility. Suggested list price: \$49.95 each.

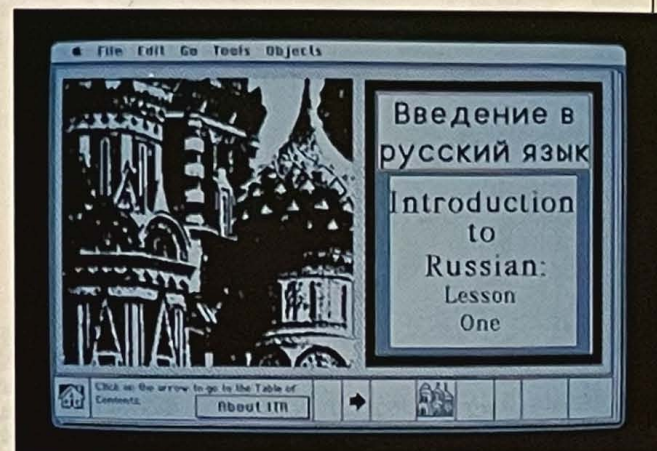
Silicon Beach Software
Games Division
P.O. Box 281430
San Diego, Calif. 92128
(619) 695-6958



Можете ли вы это читать? *

The HyperGlot Software Company introduces HyperCard foreign language software that works! Introduction to Russian with Extensive Sound — \$39.95
Verb Tutors: German, French, and Spanish — \$29.95
Russian Verbal Aspect — \$29.95
Russian Noun Tutor — \$29.95
Word Torture: Vocabulary stacks in Russian, German, French and Spanish — \$19.95

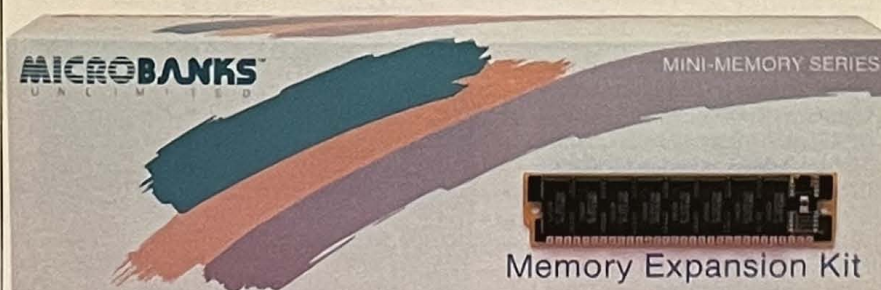
Let your Mac and HyperGlot make language study fun!
*Can you read this?



The HyperGlot
Software Company
505 Forest Hills Blvd.
Knoxville, Tenn. 37819
(615) 558-8270

Improve your memory!

1-Mbyte surface-mount SIMMs.



- All surface mount
- Two-year warranty
- Call for current pricing

MicroBanks
A Pinnacle Micro Inc. Company
23458 Madero, Suite 120
Mission Viejo, Calif. 92691
(714) 855-1600

Power tool for the AppleFax modem

BackFAX gives you your Mac back and makes fax on the Mac a practical business solution. BackFAX is alternative communications software for the AppleFax modem.

- send and receive fax in the background with or without Multi-Finder.
- automatically add cover pages
- schedule faxes for later release
- send high quality faxes

Minimum 1-Mbyte, Mac Plus and AppleFax modem. \$245. Order from your dealer or directly from Solutions International.

Solutions International, 30 Commerce St., Williston, VT. 05495 (802) 658-5506



SPC and data aquisition

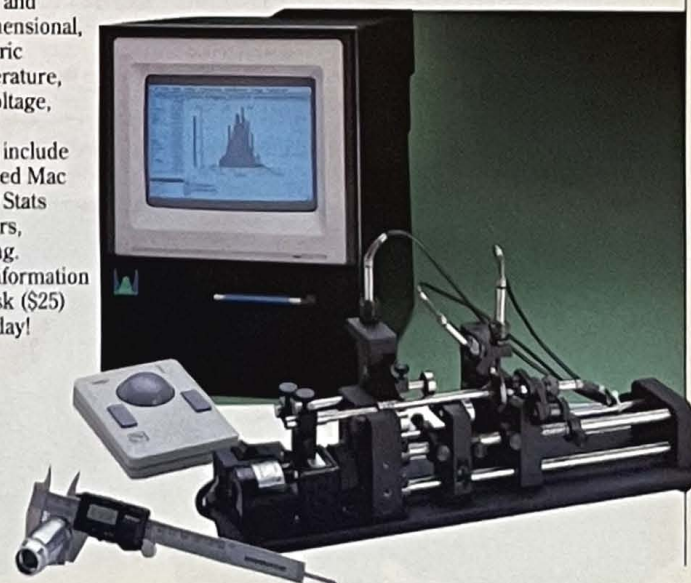
Job shops to volume manufacturers install Applied Statistics WorkStations to increase profits and their competitive advantage.

Applied Statistics' solutions address your needs for quality and process control of dimensional, thickness and geometric measurements, temperature, humidity, pressure, voltage, current and others.

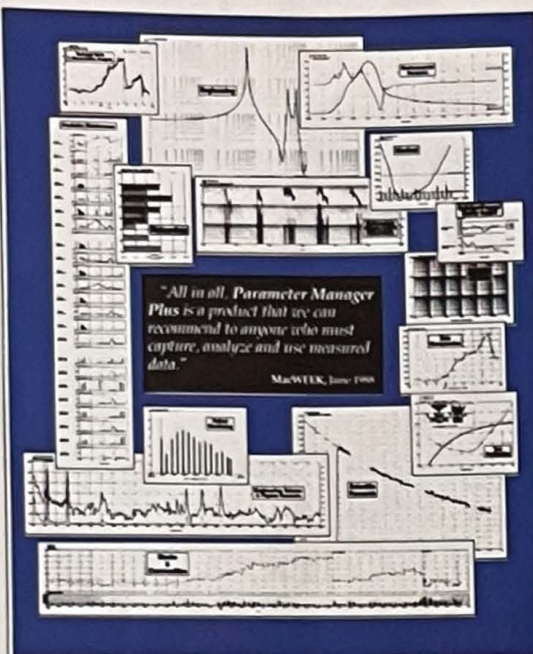
Turnkey solutions include an industrially hardened Mac (Plus, SE, II), Applied Stats software packages, sensors, installation and training.

To receive more information or to order a demo disk (\$25) please call or write today!

Applied Statistics, Inc.
27 Empire Dr.
Saint Paul, Minn. 55103
(612) 223-8820
Fax: (612) 223-8804



Parameter Manager Plus



Rebus announces Version 3.0
pmPLUS combines the industry's most versatile data importing capabilities with instant analysis, trending, forecasting, SPC control charting and more in a presentation quality graphics format.

Technical Analysis and Graphing
\$595 pmPLUS Version 3.0

Rebus Development Corporation
2330 B. Walsh Ave.
Santa Clara, Calif. 95051
(800) 654-5157
In Calif: (800) 247-4994

Unbelievable prices

Internals

Conner 100-Mbyte 29ms	\$ 969
CDC 91-Mbyte 18ms	\$1,025
CDC 173-Mbyte 18ms	\$1,749
MiniScribe 338-Mbyte 16ms	\$2,295
Priam 300-Mbyte 16ms	\$2,295
Quantum 40-Mbyte 19ms	\$ 625
Quantum 80 Mbyte 19ms	\$ 879

Externals

Conner 100-Mbyte 29ms	\$1,069
CDC 91-Mbyte 18ms	\$1,139
CDC 173-Mbyte 18ms	\$1,849
Crate 60 External 40ms	\$ 679
CMS 60 External 40 ms	\$ 749
MicroNet 62 External 40ms	\$ 739

SIMMs in stock. Call 1(800) 333-3353

Mac II, Mac SE
Mac II
Mac II
Mac II
Mac II, Mac SE
Mac II, Mac SE

Mac II, Mac SE, Mac Plus
Mac II, Mac SE, Mac Plus
Mac II, Mac SE, Mac Plus
Mac II, Mac SE, Mac Plus
Mac II, Mac SE, Mac Plus
Mac II, Mac SE, Mac Plus

MacLandTM

MacLand, Inc. 4408 South Rural Rd., Suite 200, Tempe, Ariz. 85282 1(800) 333-3353

Mac to DeskJet — the missing link

Now there's a Macintosh printer driver for the Hewlett Packard DeskJet — DataPak Software's Printer Interface III. This software program and a standard interface cable provide the missing link between Macintosh versatility and DeskJet value.

Make the connection for: • Laser quality font output without laser cost. • Laser quality graphics at 75, 150, or 300 dots per-inch. • Use of all Mac fonts, HP's built-in fonts or font cartridges. • Precision alignment for true WYSIWYG desktop publishing.

Your link to value — Printer Interface III — \$125. Standard Interface cable available. Dealer inquiries welcome.

DataPak Software Inc., 14011 Ventura Blvd., Suite 507, Sherman Oaks, Calif. 91423
1(800) 227-8703, In Calif.: (818) 805-6418

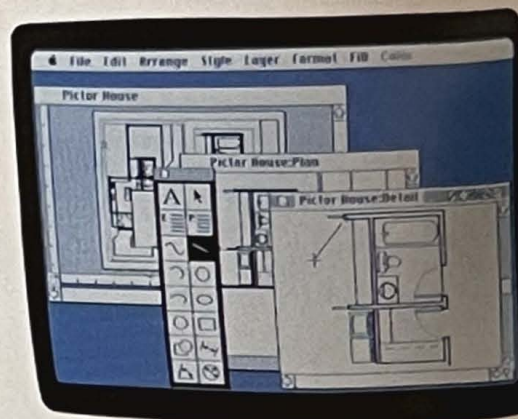


Real CAD productivity for the Mac!

PictorDRAFT brings to your Macintosh "real-world" production drafting capabilities with all the power and benefits of a real Macintosh interface, and at a Mac price! A vector based 2-D CAD program created exclusively for the Macintosh,

PictorDRAFT gives you advanced drafting features such as access of viewing tools during any drawing process, automatic and associative dimensioning and area fills, multiple drawing windows with independent scaling, construction entities, reference views with automatic updates, powerful interactive calculator/parsar, pop-up tool palette, tear-off menus, and many, many more!

Now available at an introductory price of only \$495, out-performs packages costing four to five times more!



Pictor Graphics, Inc.
800 East Campbell Rd.
Suite 189
Richardson, Texas 75081
(214) 437-8043

Sharp based color package

The Sharp JX450 color scanner is now available in a complete application package that will allow high resolution input of transparent and reflective originals for use in color layouts and separations, as well as for presentations, animation backgrounds, interactive images, and photo databases when coupled with additional software.

The \$6995 bundled application for Mac II's with 8 of 24 bit color and at least 2-Mbyte RAM includes:

- Sharp JX 450
- Mirror unit for transparencies
- National Instruments interface board
- four meter cable
- LaserPaint Color II
- Complete set-up instructions

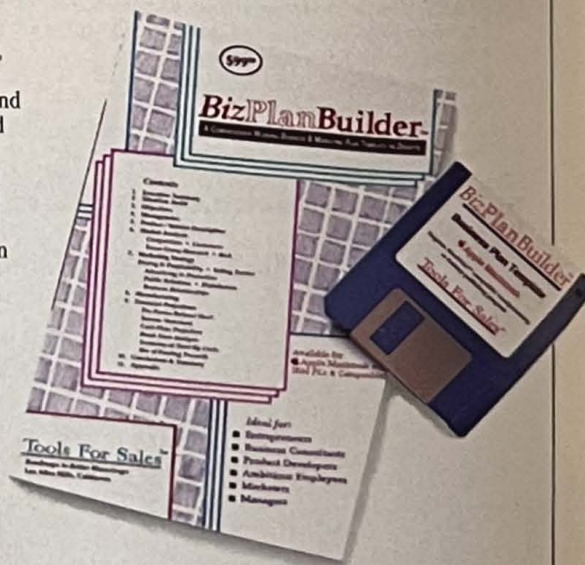
For more information contact Studio Systems' PIPELINE Access.



Studio Systems' PIPELINE Access
P.O. Box 13859
San Luis Obispo, Calif. 93406
(805) 543-7394
Fax: (805) 543-3821

Business and marketing plan template

BizPlanBuilder is a comprehensive and proven framework for preparing business and marketing plans — already typed and formatted into 33 MacWrite, Microsoft Word and Excel files. It follows standard business plan formats and provides entrepreneurs, managers and consultants with 90 plus pages of outlines, headlines, structured sentences and paragraphs, charts, lists, financial projections, suggestions...that can be edited into a complete and custom plan for presentation to investors, senior executives or clients. Built-in tutorial. Includes manual. \$99 from Tools For Sales. Dealers contact Bonsu Corporation at (800) 535-0900.



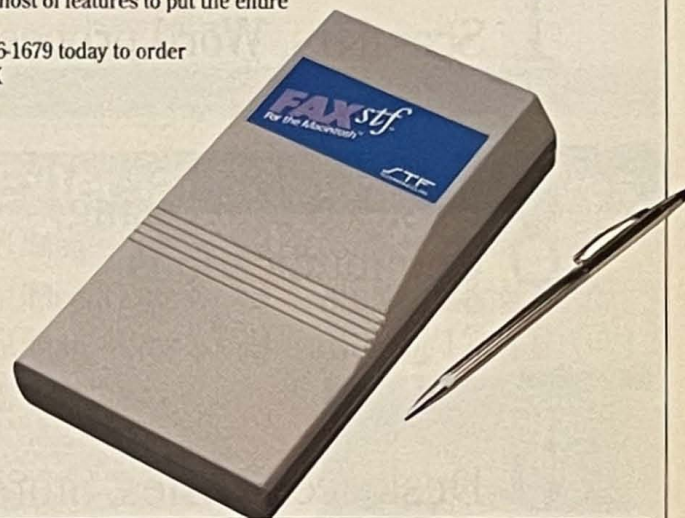
Tools For Sales
13335 Wildcrest Dr.
Los Altos Hills, Calif. 94022
(800) 442-7373
(415) 841-8181



IOtech, Inc.
25971 Cannon Rd.
Cleveland, Ohio 44148
Telephone: (216) 439-4091
Fax: (216) 439-4093
Telex: 8502820864

Fax via Macs

Call toll-free 1-800-426-1679 today to order
or learn more about FAX



STF Technologies, Inc.
1817 Main
P.O. Box 247
Higginsville, Mo. 64037
1(800) 428-1679
In Missouri: (816) 584-7727

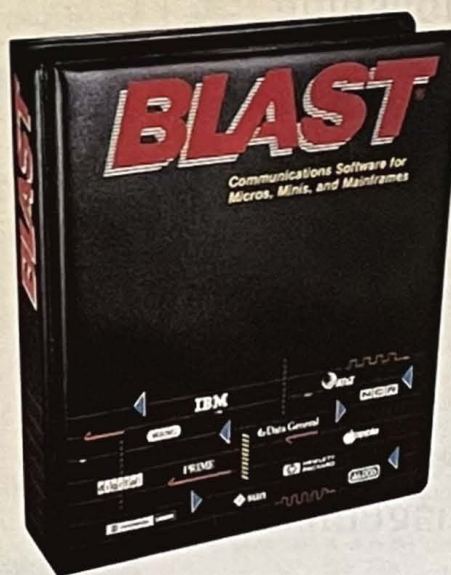
MacTAPE: The 8MM Connection

Blackhole Technology, Incorporated, the first to bring you the nine track connection for the Macintosh, now offers a high performance 8MM cartridge tape system featuring the Exabyte 8200. This 8MM cartridge system allows up to 2048-Mbytes of data storage in a single cartridge allowing you to do full backup and restore your high capacity disk drive. Call for more information.



Blackhole Technology
225 East St.
Winchester, Mass. 01890
1(800) 227-1688

MacBLAST links them all!

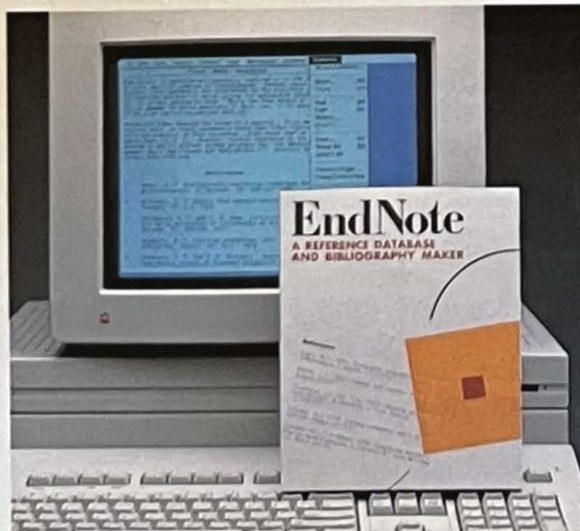


Use any modems, at any speed, to transfer data across different operating systems...through noisy phone lines...over satellites and X.25 networks through AppleTalk, serial ports and modems.

Communications Research Group
5815 Corporate Blvd.
Baton Rouge, La. 70808
(800) 24-BLAST

Add bibliographic power to Word

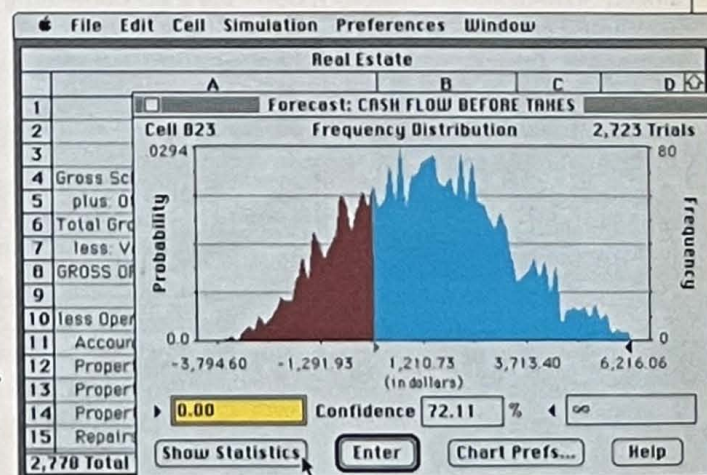
Stop typing bibliographies – EndNote can do it for you! Both a desk accessory and an application program, EndNote keeps a database of up to 32,000 references. Use the DA to access your database while you write, pasting citations from the database into your text. EndNote scans your finished paper for those citations and adds a perfectly formatted bibliography at the end. It even reformats the in-text citations. Accommodates all major bibliography styles. Works with Microsoft Word, WriteNow and MacWrite. Runs on Mac 512KE, Plus, SE and II. List price – \$129. Demo disk – \$5.



Niles and Associates
2200 Powell
Suite 785 W
Emeryville, Calif. 94608
(415) 655-6868

"What If..." you had a Crystal Ball?

The future would be clearer, your decisions less risky. Crystal Ball is a new forecasting program that goes beyond "What If..." decision making. Enhancing any Microsoft spreadsheet, it uses the power of Monte Carlo simulation to graphically illustrate the entire range of results for your particular situation. So if you play "What If...", if your mistakes are costly or you make decisions under risky conditions, Crystal Ball was made for you!



Market Engineering Corp.
1675 Larimer St.
Suite 640
Denver, Colo 80202
(800) 288-2550

Coming up in MacWEEK

November

1

Scanners, Word processing

Closes October 21

November

8

Desktop processing,
Communications

Closes October 28

November

15

Desk accessories, Storage

Closes November 4

November

22

Desktop publishing,
Input devices

Closes November 11

November

29

Typesetting, Color monitors

Closes November 18

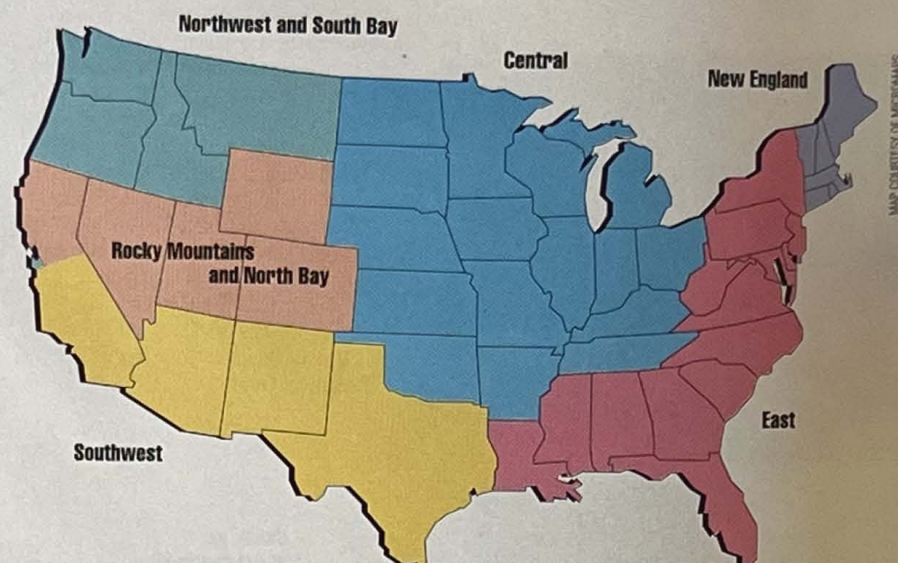
December

6

Optical storage,
Project management

Closes November 25

MacWEEK sales offices



Display and Showcase

Northwest and South Bay

Bill Peck

Western Ad Manager

415/541-7792

Lee Kerr

Account Executive

415/541-9381

Rocky Mountains and North Bay

Jeff Cohen

Regional Sales Manager

415/541-9233

Lee Kerr

Account Executive

415/541-9381

Southwest

Michael Lamattina

Regional Sales Manager

213/387-2100

Kathy Kottenbach

Account Executive

415/541-9660

Central

Jane Fitzwilliam

Regional Sales Manager

312/346-2600

Jo-Ann Sturtridge

Account Executive

415/541-9659

New England

Peter Stangel

Regional Sales Manager

212/503-5153

Jo-Ann Sturtridge

Account Executive

415/541-9659

East

Nancy Carter

Eastern Ad Manager

212/503-4432

Carla Daiss

Account Executive

415/541-9499

Career Opportunities

800/288-HIRE

Jay McGetrick

Senior Account Manager

May Herkert

Regional Sales Manager

Classified

800/824-4ADS

Robert Foody

National Ad Manager

Advertiser index

Advertiser	Page	Advertiser	Page	Advertiser	Page
3 Com	43, 44, 45	Dove Computer	74	Mass Micro	7
Apple Computer	28, 29	DPI	33	MicroBanks	59
Applied Statistics	59	Farallon Computing	75	Micron	26
Blackhole Tech.	61	GCC	5	Microseeds Publishing	61
Brainpower, Inc.	27, 68	Hardware House, Inc.	56	Microtech International	53
Caere Corp.	31	HyperGlot Software Co.	59	Mirror Tech.	16
Cambridge Marketing	50, 51	IDD	17	National Instruments	61
Cayman Systems	23	IOtech, Inc.	61	National Semiconductor	73
Communications Research	61	Jasmine	2	New Image Technology	58
Compugraphics	11, 12, 13	LaCie, Ltd.	49	New York University	57
Crate Technology	15	Leasmetric	21	Niles and Associates	61
Cricket Software	38, 39	Lexpertise	19	Open Mac Enterprises	58
CTA	25	MacLand, Inc.	60	Peripheral Land, Inc.	35
Data Copy	9	MacPeak	70, 71	Pictor Graphics	60
Data Translation	47	MacProducts USA	18	Priam	54, 55
DataPak Software	60	Market Engineering	61	Qualstar Corp.	59
				Rebus Development	60
				Sharp	41
				Shiva	76
				Silicon Beach	20, 59
				Solutions International	59
				STF Technologies, Inc.	61
				Studio Systems	60
				Sunrise	57
				Symmatry	37
				Technology Works	58
				Tools For Sales	60
				Total Systems Integration	58
				Tymlabs	52
				Vertical Solutions	58
				Visual Business Systems	32
				West Ridge Designs	58

MarketCenter

MEMORY/UPGRADES

OUR REPUTATION SELLS OUR PRODUCTS

256K SIMMS

- Upgrades Mac II to 2 Megabytes
- Uses new 1 Megabyte technology for lower power consumption
- Speed at 120 ns (80/100 ns available)

1 MEG DIP SIMMS

- Upgrades Mac II to 5 or 8 Megabytes
- Lower cost than surface mount SIMMS
- Speed at 120 ns (80/100 ns available)

1 MEG SURFACE MOUNT SIMMS

- Upgrades Mac II to 5 or 8 Megabytes
- Upgrades Mac Plus/SE to 2.5 or 4 Megabytes
- Speed at 120 ns (80/100 ns available)



5124 Russell Ave. S.
Minneapolis, MN 55410
(612) 925-2720 fax

ORDERS: 1-800-950-CARE

INFO: (612) 920-CARE

1 year factory warranty
Shipped in 2 days
All products shipped from inventory
Made in U.S.A. 10/11/88

COMPUTER PRODUCTS AND PERIPHERALS

External SCSI Hard Drives

20Meg/65ms \$499

40Meg/12ms \$749

60Meg/40ms \$799

30Meg/28ms \$549

46Meg/28ms \$699

80Meg/12ms \$1049

- PREFORMATTED
- ZERO FOOTPRINT
- LED BUSY INDICATOR
- RUGGED CONSTRUCTION
- HALF-SPEED COOLING FAN
- FOR MAC PLUS, SE AND MAC II
- ONE OR TWO YEAR WARRANTY
- WORKS RIGHT OUT OF THE BOX
- SOFTWARE, CABLES AND MANUAL



SONY 800K EXTERNAL DRIVE \$150

MajorMac

10506 BALTIMORE AVENUE, BELTSVILLE, MD 20705
NO SURCHARGE FOR VISA OR MASTERCARD. SHIPPING NOT INCLUDED.

800-622-3384

301-937-1778

RAM

Haven't you waited long enough?

Upgrade your Mac Plus, SE or II with 1 megabyte SIMMs modules. Low-profile and DIP mounted SIMMs available in 120ns and faster. Call for current price. We are the lowest.

HARDWARE HOUSE 1-800-356-2892

3440 Market St., Philadelphia, PA 19104 (215) 386-2208, Fax: (215) 386-4624

LOW COST SIMMS !!

For Mac II, SE & Plus

1 MEG \$349
256k \$ 90

Volume discounts are available.
VISA & MasterCard are welcome.
(*Prices are subject to change without prior notice)



BARGAINS N' DEALS
(415) 683-0908 • Fremont, CA

ORDER: 1-800-446-2433 (Outside California)

1 MEG dipSIMM

for the MAC II, Plus and SE

Compare our prices! Why wait and pay extra for surface mount?

dipSIMM's are fabricated with CMOS dual-in-line 1 MEG DRAM's, the same IC's die as used in surface mount DRAM's. However, unlike surface mount parts, we deliver, and do so at lower prices. Call for latest pricing.

Delta Research Laboratories
11050 E. Artesia Blvd., Suite C
Cerritos, CA 90701
(213) 924-5394

Note: For Mac SE without expansion card.
Engineered by Orion Avionics.

1 MEGABYTE SIMMS

For Mac II, SE & Plus

\$AVE MEGABUCK\$ ON MEGABYTE\$

Best Prices In The U.S.

UPGRADE!!!

The Computer Product Center

To Order Call:
1-800-237-8400 ext. 999

Technical Info & Support Call:
1-301-505-1632

Serial Ports
for your
Macintosh II

With CSI's Hurdler 2 or 4 channel intelligent serial add-in boards, featuring 68008 microprocessor and drivers in ROM. 2 Channel board (HDS) - \$299, 4 Channel board (HQS) - \$379

Other NuBus boards:
Centronics Parallel Interface \$199
Prototyping Board \$279
NuBus to PC Bus \$349
Extender Card \$ 59
Dual Ported RAM \$349

NuBus to STD, MetroBus, Optio-22 P88, and Motorola I/O Channel also available. Optional ROM Development Tools software package, \$149. Call for details or a technical data sheet.

Combin Solutions, Inc. 1-800-367-8466
4701 Randolph Rd. Ste 12, Rockville, MD 20852
Technical questions 301-984-3530
Major credit cards Fax 301-770-1675

1 MEG SIMMS

Surface Mount Memory

We are now shipping high-quality low-profile SIMMS for your Mac II/SE/Plus with a 2 yr. factory warranty. Volume discounts available. Complete Mac II memory/hard disk upgrades are also available. Checks and credit cards are OK!

(512) 448-4133

Technology WORKS

2111 Dickson Dr. #30 Austin TX 78704

1 MEG SIMMs

VISA/MasterCard
Call for BEST Price!

800-447-SIMM

Adaptive Technology

3939 Beltline Road, #400
Dallas, Tx 75244

FAX: 214/241-7607

Call TODAY!
One Year Warranty

800-447-7466

256K SIMMs

ONE MEG SIMMs

PSI has the one meg SIMMs you need to upgrade the RAM of your MacPlus, SE, or II.

CALL TODAY

800-622-1722 408-942-8188



PSI
1609 A South Main Street
Milpitas, CA 95035

Macintosh RAM Chips Available

Mac SE/Plus
150ns SIMMS

Macintosh II
120ns SIMMS
High Profile

Quantity Discounts
Available

Corporate Accounts Welcome

Many Manufacturers
Available

WE ONLY SELL QUALITY

Why Wait For Your Macintosh Equipment?

CMS ENHANCEMENTS:

Macintosh 45MB MacStack \$709
Macintosh 60MB MacStack \$749
Macintosh 140MB MacStack \$1299
Full ProIII/ProSE CMS line in stock

THIS MONTHS SPECIALS

MultiTech Modems for
ALL Macintoshes
Kensington MicroWare Products

Smithfield International

1517 Lexington
Plymouth, MI 48170
(313) 454-0053
FAX: 1 (313) 454-0093

Ask about
our Exclusive
5-YEAR WARRANTY

Highest Value... Lowest Price

Memory Expansion SIMM kits for Macintosh™ Plus, SE and Macintosh™ II

Easy-to-install, plug-in modules that let you add 2 to 8MB of memory. Ideal for "memory-gobbling" applications and the new Multi-Finder multitasking environment.

We manufacture these high and low profile SIMMs in volume for immediate shipment.

	85ns	100ns	120ns
1MBx8	High Profile	High & Low Profile	High & Low Profile
1MBx9	High Profile	High & Low Profile	High & Low Profile

Guaranteed same day shipment
Orders received by 3:00 p.m. (CST)
shipped same day or we pay freight.

We also buy and
sell 256K SIMMs

CALL FOR PRICES AND DISCOUNTS
1-800-678-DRAM 678-3726

Newer
TECHNOLOGY

Phone (316) 685-4904
FAX (316) 685-9368
1117 S. Rock Rd., Suite 4
Wichita, KS 67207

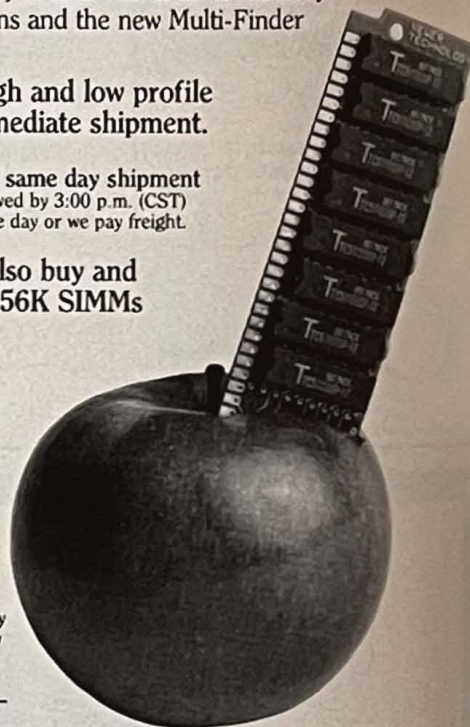
Designers and manufacturers of the newest technology in memory

• DartCard™ • attention™ • Concentration™
• LIMfile™ • ADDITION™

Distributed BY

E.T.C.
Emerging Technologies Corporation
5555 West 78th St.
Minneapolis, MN 55440
1-800-999-9382
FAX (612) 944-6328

Tallgrass Technologies, Canada, Inc.
1775 Meyerside Drive, #1
Mississauga, Ontario L5T 1E2
(416) 673-3244
FAX (416) 673-3926



See us at Booth B540

COMDEX/Fall '88

We Manufacture ONE MEG SIMMS

Mac II™
Mac SE™
Mac Plus™

IMMEDIATE
DELIVERY!

Don't pay the high price of resellers.

Don't settle for long lead times from other suppliers.

Buy from Western Automation and Receive:

• Competitive Price • 1 Year Factory Warranty • Full Service

Order Today: 800-227-4637 or 303-449-6400

Western Automation
1700 N. 55th St.
Boulder, CO 80301

Upgrade Your Macintosh!!!



Upgrade to 2.5, 4, 5 or 8 megabytes with Surface-Mounted or Dual-In-Line-Packaged SIMMs. We also sell Video Ram Kits for Mac II. Professional Mac +, SE opening kits (including Torx® driver and pryer tool) come free with every 4 SIMMs*!

*Kit normally \$19.95. Call for current SIMM pricing. Macintosh specialists since 1984.

TURBO TECHNOLOGIES, INC.
78 Maple St. • Roslyn Heights • NY • 11577
Phone (516) 625-3258 • (800) 542-7466
FAX (516) 625-0586

Call us at (800) 542-7466!

THE

**Chip
MERCHANT**

1 Meg Simms

for Macintosh Plus, SE or Mac II
120 ns only **\$305.00**

1 year guarantee on manufacturer's defects and chip failure

Other chips available

All chips new

Prices subject to change without notice

CALL (619) 268-4774

5797 Chesapeake Court, San Diego, CA 92123
Fax #619 268 0874

Royale Data Products, Inc.
Quality Customer Service from Roberta Wirtel & Ann Deaver

Bulk 3.5" Disks
Double Sided **\$95**
High Density **\$2.99**
100% Guaranteed

SIMMS

For Macintosh™ Plus, SE, & II's
▲ Low Profile ▲ 2 Year Warranty
▲ 120 Nanosecond ▲ US Manufacturer
▲ Detailed Installation Guide

SPECIAL INTRODUCTORY OFFER!!!

\$339 per MB
AVAILABLE NOW

3350 Scott Blvd. Suite 1903
Santa Clara, CA 95054
Hours: M-F 9:30 am - 6 pm Sat 12 pm - 4 pm
All Offers While Supplies Last & Prices Good
Thru 11:30 PM Visa, MC, Amex or COD

(800) 544-3472

(408) 727-9022 or (408) 727-9725 FAX

1 MEG SIMMS

Surface • Low Profile
SOJ Packing **\$365.00**

For: MacPlus • Macintosh SE
Macintosh II

PROCOMPUTER

Tel: (215) 860-5200 Ext. 10
Fax: (215) 860-2646

Major Credit Cards Accepted

1 MEG SIMMS - LOWEST PRICES

U.S. made 1 meg simms for Mac II and
Mac SE. Speed: 100 & 120 n/s cmos chips.

Dip mounted Simms **\$310**
Surface mounted Simms **\$330**

Best Quality - Factory Tested
We use Toshiba, Mitsubishi, Hitachi, and
Siemens chips
All inquiries welcomed

SPARK INTERNATIONAL, INC.
P.O. Box 314, Glenview, IL 60025
(312) 998-6640

\$300

1 MEG SIMMS

Surface Mount Memory

East & West (415) 969-6553
Northwest (206) 630-8089
International FAX (415) 964-3070

STRAIGHT ARROW

Memory Systems
1979 Colony St.
Mt. View, CA 94043

ONE MEG SIMMS

\$319 MC/VISA

DIRECT FROM MANUFACTURER
AVAILABLE IMMEDIATELY
Fits All Mac Computers
Money Back Guarantee
Lifetime Warranty

NET
MICRO ELECTRONIC TECHNOLOGIES INC.
35 South St., Hopkinton MA 01748
(508) 435-9057

Calling about a job? Say you saw it in **MacWEEK**

MEMORY UPGRADES
continues on the following page

MEMORY/UPGRADES

SIMM MEMORY

- 256k or 1 Megabyte
- Surface Mount (Low Profile)
- DIP Mount (High Profile)
- 1 Year Factory Warranty

In Stock!

— Call For Pricing —

DayStar Digital

3556 Atlanta Highway • Flowery Branch, GA 30542

1-800-962-2077

1 MEG SIMMS!

\$289

Immediate Delivery!
1 Year Guarantee

120 Nsec. Dip Sims great for Mac II or for Plus or SE without co-processor boards. Flow soldered in the USA. We've upgraded more than 2000 Macs.

Digi-Graphics
764 E. Village Way
Kaysville, UT 84037
(801) 544-2009



SUPPLIES

SOFTWARE PACKAGING

1000 disk labels \$98
10,000 only \$280 (FREIGHT PAID)
1-800-444-1515

THE Kaleidoscope GROUP

To Place Classified Advertising in MacWEEK...

Orders for classified advertising are accepted ten working days in advance of issue date. Minimum order:

- Two inches (rate \$80/inch).
- Agency discounts not applicable.
- Refer to Classified Rate Card for frequency discounts.
- 2nd color option available (Red or Yellow)
- 3rd color option available (Red and Yellow)

MacWEEK accepts Visa, MasterCard, check or money order as payment for classifieds.

Advertisers may send camera-ready artwork or copy to be typeset at no additional charge.

To place your ad, call
Robert Foody at
(212) 503-5122 or
(800) 825-4ADS.

HARDWARE

KODAK DATASHOW

— SAVE \$249 —

Mac Screen to Big Screen • In Stock
• 1 Year Full Warranty • 1:1 Pixel Resolution • True Black & White • 20:1 Contrast Ratio

BOXLIGHT CORPORATION

415/892-4744

Computer Based Presentation Systems Since 1984



FOR BETTER PRESENTATIONS
DRIVE MANY MONITORS
AT ONCE USING
OUR VOPEX PRODUCTS.

CALL FOR
FREE CATALOG
NETWORK TECHNOLOGIES, INC.
19145 Elizabeth St., Aurora, OH 44202
(216) 543-1646 / (800) RGB-TECH

DEALERS
Save on Macintosh™ board repairs. Fast reliable service with quality replacement parts.

Plus/512 logic board repair \$60/40 + parts
SE/Plus analog board repair \$25 + parts
Six month warranty on board repairs.
Exact replacement flybacks \$18 ea. or 3/\$45
Call for quantity pricing and other parts.

MICRODOC
COMPUTER REPAIR
2635 Capital
Eugene, OR 97403
503-344-5335

BAR CODE & MAGNETIC STRIPE READERS

- On Macintosh and Plus, connects on keyboard
- On Macintosh II and SE, connects on Apple Desktop Bus
- No additional port or program required
- Totally transparent to all software
- Does not affect keyboard operation
- Simple and quick installation
- Bar code print program and magnetic encoder also available

TPS Electronics

4047 Transport, Palo Alto, CA 94303
Telephone: 415-856-6833 FAX: 415-856-3843
Telex: (Graphnet) 371 9097 TPS PLA

Mac-cessory™

EVEREX Hard Drives & Tape Back-ups

EMAC-40 + IMP 12 MS ACCESS \$825
MD-2400 Modem \$214

We carry the entire
Everex Line!

Giga Cell Systems

20 MB \$489
DATA CELL 20 Hard Drive

800-634-1497
or call 216-543-1952

Valley Computers
16744 W. Park Circle, Chagrin Falls, OH 44022
We DO NOT charge credit cards until order ships

BUSINESS



MacM.E.D.™ System

The Medical Electronic Desktop™ (MacM.E.D.™) including M.E.D.™ Patient and M.E.D.™ Maker

MacM.E.D.™ brings the physician an electronic medical record, a collection of assessment checklists, a variety of history formats, protocols for workups and care management, a framework for organizing knowledge about diseases and treatments, and graphics for illustrating medical problems. MacM.E.D.™ can be customized to the physician's own preferred practice style.

Runs on Macintosh® Plus, SE and II, and networks with other equipment and applications. 30-Day Trial Version of the complete application available for only \$60 plus shipping costs. Also, seeking professional representatives. Contact:

JAM Technologies, 685 Market St., Suite 860, San Francisco, CA 94105
(415) 442-0795

Strategic Business & Marketing Plans

BizPlanBuilder™ Quickly and easily complete an effective business/marketing plan for presentation to investors, senior management or clients. A comprehensive and proven framework — Over 85 pages of outlines, headlines, structured sentences & paragraphs, lists, suggestions... already typed and formatted into 29 MacWrite™ & MS Word™ files. Includes spreadsheet financial statements in Excel™

Marketing & Sales Oriented Everything you will need to organize, describe, promote & support your venture. (Similar to reverse engineering where the best elements of several good plans are cut & pasted together.) No blank pages. Follow the tutorials & edit into a finished plan. Includes manual. Preferred by investment capital experts, corporate managers & experienced consultants.

Also available: • Investment Capital Sources
• Domestic & International Marketing
• Employee Handbook Template

Tools For Sales™ \$999 Visa • MC • Amex •
Responsible to Better Management • \$3 Shipping & 7% Tax (CA)
13335 Wilshire Drive 30-day acceptance / return
Los Altos Hills, CA 94022 Site licenses available.
800/442-7373 • 415/941-9191

Business Plans & Forecasts

Business Plan Toolkit™: Build a complete professional business plan. Includes sample outline, text, spreadsheet models and charts for financial analyses, budgets, forecasts, and practical, easy-to-follow manual. \$99.95 Optional HyperCard business plan text guide. \$19.95

Financial Forecasting Toolkit™: Simplify cash flow and financial planning with models, charts, macros, and practical manual. \$69.95

Sales and Market Forecasting Toolkit™: Improve your forecast with proven methodologies using models, charts, macros, and manual. \$69.95 All models require Excel. Works or MultiPlan. Charts and macros with Excel only. Add \$5 Shipping & handling per order. CA residents add 7% tax.

— **Palo Alto Software** —
260 Sheridan Ave., Suite 219
Palo Alto, CA 94306

(415) 325-3190
(800) 336-5544

SECURITY

DOD CONTRACTORS

S I M S

CLASSIFIED FACILITY MANAGEMENT SOFTWARE

(Security Information Management System) makes the control of classified documents, contracts, and personnel virtually error free and meets all administrative requirements of the "ISM" (Industrial Security Manual)

DEMONSTRATION DISK \$20.

MAX SOLUTIONS
241 12th St., Del Mar, CA 92014
(619) 481-0479

STACKWARE

NEW STACK!

Protect
your ideas and work through government registrations!

Automate
regular filings! (a legal tool)

- Guidelines & procedures
- Fill-out-on-screen Forms
- Glossary, Indexes, On-line Help & more!

Copyrights, Trademarks & Patents

ORDER TODAY! **713-872-8085**

aardvark®

ONLY \$49.95
sugg. retail



GRAPHIC SUPPLIES/SERVICES

Boldest Darkest + Sharpest Black Lightning

It all adds up to Quality
Fully Tested & Guaranteed

Let technological leaders remanufacture your cartridges and save you money. Or you can buy one reconditioned from our stock. We also buy used cartridges. Prepayment, Master Card, and Visa. Call about purchase orders for major accounts.

Toner Cartridges
1-800-BLACK99



Minidraw

Drawing in a desk accessory!

Create object-oriented graphics "on the fly" using your favorite Macintosh application



55 Academy Drive
Rochester, NY 14623
716/359-3024

Attention Power Point 2.0 Users!

- Attention users of
- Power Point
 - Cricket Presents
 - Ready Set Show

Digital Photo.....

will do 2000-4000 line resolution slides at the low price of

Call for information:
402-393-1744

\$7

DIRECTORY OF HIGH-QUALITY PUBLISHING PRINTOUT SERVICES

Over 500 detailed listings of firms that output desktop publishing files at high resolution on paper or film. Check or money order for \$15 to:

TypeWorld

Box 170, Salem, NH 03079

SAVE MONEY RECHARGE YOUR LASER CARTRIDGES

HP, APPLE, CANON, QMS, & OTHERS

ALL CANON PC MODELS

\$39.95 plus \$3 S/H

100% GUARANTEE 20% MORE TONER

LASTS LONGER THAN NEW

NO DRILL & FILL

SEND CARTRIDGE AND WAND

IN ORIGINAL BOX WITH CHECK OR

MONEY ORDER TO:

METRO RECHARGERS
SUITE 1202, 101 W. 31st St., N.Y. N.Y. 10001
212-268-1552

PORTABLE MACS

TRAVELMAC™

The Penny Pinchers Portable Mac

Size.....2.5" x 12" x 14"
Weight.....6 lbs.
Display.....Backlit superwist LCD
Standard.....Big screen interface
Cloth carry bag
Wall mount power supply

Required Equip:

Hacker Mindset.
Macintosh (128, 512, Plus, SE)
WEALTH OF IDEAS
Phillips head screwdriver

Available Oct. 30th

\$1295

- Finally a cure for MacPacker's Palsy!
- Build a portable out of your old Mac plus!
- Optional 220v power adaptor available!

212-995-2224

NSI Serious Hackers against slough arm

PROGRAMMING SERVICES

Advanced Product Development

Development in Object Pascal, MacApp, C, & 4th Dimension

- Database
- Optical Disk
- Communications
- 24-bit Color
- Multi-Tasking
- Device Drivers

Call John Hayes at (703) 528-8838

Trace

Macintosh Database Programming

Exclusively Macintosh.
Exclusively 4th Dimension.

Charles A. Eglett, Deirdre L. Maloy
Insanely Great! Software

3001 Red Hill Avenue
Building 6, Suite 224
Costa Mesa CA 92626
714/754-4443

Insanely Great! Software is a trademark of Insanely Great! Software.
Macintosh is a registered trademark of Apple Computer, Inc.
4th Dimension is a registered trademark of Acorn, Inc.

Custom Macintosh Development

Our Mac team offers complete software development services to the nation's leading corporations and software publishers.

- ✓ Specifications
- ✓ Software design & development
- ✓ Strong project management
- ✓ CL/1 - mainframe connectivity

Call us for a free initial evaluation.
Contact: Jay More at 515-472-7077.

FairfieldSoftware

USED EQUIPMENT

Used Mac's & Hard Drives Wanted
We Buy, Sell & Horsetrade Popular Computers!!

MAC Parts
Call!!

Special of the Week!	Everex 20 ext.	\$495.
	CMS 60 Mac-Stack	\$775.

Loaded with Public Domain Software!!

Shreve Systems **318-865-6743**
Fax # 318-865-2006 visa/mc O.K.

Mach heaven needs You!

We buy & sell used Macs & Mac peripherals.

We rent Mac systems

We also sell new Mac peripherals* and are featuring these products:

- Jasmine
- Dynamac
- Levco
- Seikosha
- Everex
- Olympia

* Call us if you'd like your product featured!!

(703) 263-2567

*Providing Good Homes to Experienced Macs Since 1987™

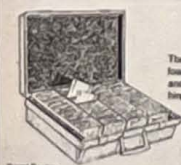
Everything Macintosh!

If you need power supplies, memory, logic boards, CRTs, cases, keyboards, drives or anything else, call us toll-free at the number below. We buy, too.

Pre-Owned Electronics, Inc.
30 Clematis Ave Waltham MA 02154
617-891-6851 / Fax 617-891-3556

1-800-274-5343

ACCESSORIES



NO MORE LOST DISKS!
Finally, store all of your floppy disks in one convenient case...
The DISK-O-TECH® Floppy Disk Case securely holds from 1 to 300 3.5-inch disks utilizing a novel patent-pending foam spacing/organizing system. Each case is molded from high-density black polyethylene with a gripper textured exterior and double wall construction for superior strength and protection. Heavy-duty solid polystyrene handles, a mechanical hinge, and injection molded latches of tough polymers ensure long life under constant use. One year warranty.
\$69.99 plus \$3.00 s/h Check, MO, MC, VISA TX residents add tax
P.O. Box 583, Suite A, Arlington, TX 76010
(800) 288-4447

DISK-O-TECH

MISCELLANEOUS



MacChuck™

Puts Your PC in a Macintosh Window!

If you work with both a Macintosh™ and an IBM® PC, MacChuck may fulfil your co-processing and file transfer needs. Use your existing PC to operate DOS programs through a window on your Macintosh use the Macintosh clipboard with PC programs easily copy text, non-text, and "MacBinary" files to and from the Macintosh at 57,600 baud.

MacChuck requires: a serial cable suitable for high speed operation; Apple System 3.2 or later; and, DOS 3. MacChuck doesn't display graphics mode PC screens and isn't recommended for use with certain network programs.

MacChuck™ PC Remote Control Program \$79.95
Universal 10' PC/AT to DB9/Mini-8 Cable Set \$34.95

Vano Associates, Inc.
P.O. Box 12730
New Brighton, MN 55112
(612) 788-9547

MAILING LIST of Mac Users

On labels, tapes, diskettes... or by modem.



Choose from hundreds of thousands of users!
Only 5¢ per name, with no charge for selecting, sorting, media, or delivery.

Semaphore Corporation
207 Granada Dr., Aptos, CA 95003
(408) 688-9200 (voice) 662-2717 (modem)

FINANCIAL



Keep Ahead Of Taxes With

MacMoney™

Now version 3.02!
A personal and small business financial management program that's easy to use.*

Winner of 2 Macworld World Class Awards

Survivor Software Ltd.
11222 La Cienega Blvd, Ste. 450
Inglewood, CA 90304
(213) 410-9527

*Macintosh 512KE required,
\$119.95 + \$3 s/h (CA res. add tax)

Serious Buyers.

That's who's reading MacWeek. 60,000 corporate, government and academic professionals who can and do buy Macintosh products in volume.

These people use their Macs to help them and their organizations gain a competitive advantage. They chase the cutting edge of new technology in order to get the most from their Macs — all the time.

That's why they need the weekly news format offered by MacWeek — by far the preferred newsworthy serving the Macintosh market.

Serious Selling...

What's the most cost effective way to sell to this lucrative audience? MacWeek Classified. No doubt about it. You can run display-type ads, with the option to use color to help your sales message stand out.

Give a call today to your National Classified Advertising Manager, Rob Foody at 212-503-5122 or 800-825-4ADS. He'll help you develop the best marketing strategy for your product or service.

ACCESSORIES

CABLES
MACINTOSH APPLE-II
SCSI RS232 IBM
APPLETALK KITS
MINI-DIN SWITCH BOX
all cables are molded, tested and 100% guaranteed
Custom Cables Made
Quantity Discounts Available
COMPUTEL
26 North 26th St.
Kenilworth NJ 07033
Phone (201) 241-5400
Fax (201) 241-5999

Furniture for the Macintosh

Nationally advertised fine oak furniture

Save up to 40%
factory direct!

- CAD-CAM WORKSTATIONS
- LASERWRITER CARTS
- PRINTER STANDS

AND MORE...
Call Now
For Free Catalog

1-800-333-8095
The Walker Company Petaluma, CA



MacWeek reaches two out of three Fortune 500 companies every week

Get a FREE Subscription to

MacWEEK

Applicants who qualify will receive a complimentary subscription to MacWEEK. All questions must be answered, including those which request specific numbers, to be eligible for qualification. Incomplete forms cannot be processed. The publisher reserves the right to limit the number of free subscriptions. Remember: Sign and date this form before returning.

- Please start/continue my FREE subscription to MacWEEK.
☐ 01. Yes ☐ 02. No BB 44

1 Your company's primary business activity at this location (check one only):

- Computer Related**
☐ 01. VAR/VAD
☐ 02. Retailer/Distributor
☐ 03. Systems House/Data Processing
☐ 04. Manufacturer (Computers, Software, Peripherals)
☐ 05. Consultant
Non-Computer Related
☐ 10. Aerospace
☐ 11. Architecture, Engineering
☐ 12. Research & Development
☐ 13. Graphic Arts
☐ 14. Communications: Publishing, Advertising, Public Relations, Promotion
☐ 15. Government: Federal
☐ 16. Government: Non-Federal
☐ 17. Manufacturing
☐ 18. Education
☐ 19. Finance: Banking, Accounting, Insurance, Real Estate
☐ 20. Health, Medical, Legal
☐ 21. Retail, Wholesale, Distribution
☐ 22. Agriculture, Mining, Construction, Oil
☐ 23. Transportation, Utilities
☐ 97. Consultant: Non-Computer Related
☐ 99. Other Businesses & Services (please specify)

2 Your Professional Title (check one only):

- ☐ A. Chairman/President/Owner/Partner
☐ B. Vice-President/Director/General Manager
☐ C. Controller/Treasurer
☐ D. Micro Manager/Specialist/Coordinator
☐ E. Project Manager/Group Leader
☐ F. Art Director/Graphic Designer/Artist/Illustrator
☐ G. Manager/Supervisor (not listed above)
☐ H. Architect/Engineer
☐ I. Systems Analyst/Programmer
☐ J. Consultant/Advisor
☐ K. Scientist
☐ L. Educator
☐ M. Editor/Writer
☐ N. Professional (Doctor, Lawyer, etc.)
☐ O. Accountant
☐ P. Representative
☐ Z. Other (please specify)

3 Your department/function at this location (check one only):

- ☐ A. Engineering/Systems Engineering
☐ B. Research & Development
☐ C. Communications/Publishing/Public Relations
☐ D. Art/Creative Design
☐ E. MIS/DP/Information Systems
☐ F. Manufacturing/Operations/Production
☐ G. Sales/Marketing
☐ H. Administration/Management/Personnel
☐ I. Accounting/Finance
☐ J. Education/Training
☐ K. Science
☐ L. Consulting
☐ Z. Other (please specify)

4 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are (answer one only):

- ☐ A. Retailer: sold per year _____ (specify quantity)
☐ B. Reseller: resold per year _____ (specify quantity)
☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)

5 Indicate how many employees there are in your entire company (check one only):

- ☐ 01. 1000 or more ☐ 03. Under 100
☐ 02. 100-999

6 Please indicate the quantities of the computers currently owned and/or planned for purchase within 1 year at this location:

(Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Buy (0-12 Months) (Quantity)
01. Macintosh II		
02. Macintosh SE		
03. Macintosh Plus		
04. Macintosh (Other)		
05. IBM/Compatible Micro		
06. Other Micro		
07. Workstation (e.g., Apollo, Sun)		
99. Other		

- Subscriptions cannot be delivered to a home address. Please AFFIX YOUR BUSINESS CARD below or provide full company name and address.

NAME	
TITLE	
COMPANY NAME	
DIVISION	TELEPHONE NUMBER
STREET ADDRESS	
CITY	STATE ZIP

7 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):

- ☐ 01. DEC ☐ 03. Other
☐ 02. IBM ☐ 09. None

8 How many Macintoshes do you personally help purchase, specify, recommend or approve the purchase of? (check one only)

- ☐ 01. 500+ ☐ 05. 10-19
☐ 02. 100-499 ☐ 06. 4-9
☐ 03. 50-99 ☐ 07. 1-3
☐ 04. 20-49 ☐ 09. None

9 Check all the Macintosh/Compatible products and services in which you are actively involved in purchasing, recommending, specifying or approving:

- Computers**
☐ 01. Micros (Personal)
☐ 02. Workstations
☐ 03. Minis, Mainframes
Connectivity
☐ 10. Local Area Networks
☐ 11. Modems
☐ 12. Micro/Mini/Mainframe Links
☐ 13. Communications Software
Peripheral Equipment
☐ 20. Laser Printers
☐ 21. Color Printers
☐ 22. Color Monitors
☐ 23. Hard Disks
☐ 24. Backup Systems
☐ 25. Plotter, Charting Devices
☐ 26. Scanners
Add-In Boards
☐ 40. Memory Boards
☐ 41. Graphic Boards
☐ 42. MS DOS Boards
☐ 43. Ethernet Boards
Software
☐ 50. CAD/CAM
☐ 51. Graphics
☐ 52. Desktop Publishing
☐ 53. Desktop Presentation
☐ 54. Database
☐ 55. Programming
☐ 56. Accounting, Payroll
☐ 57. Spreadsheets
☐ 58. Music
☐ 59. Project Management
☐ 60. Word Processing
☐ 61. Utilities
☐ 99. None

10 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):

- ☐ 01. Local Area Network
☐ 02. Communicate with corporate workstations, mini or mainframe computers
☐ 03. Communicate with remote mini or mainframe computers
☐ 04. Communicate via modem
☐ 05. Voice/Data
☐ 09. Other (please specify)

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____
 Title _____ Dept. _____
 Your Signature _____
 Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

New York, NY 10016
 Telecopier (212) 503-5197

Ad Closing
 Friday, 11 AM Eastern
 Time 11 days before
 issue date

November 2-4 Software Requirements & Specifications (Washington, DC)
 Contact: Integrated Computer Systems, (800) 421-8166
 November 2-4 Software Maintenance (Montreal, Canada)
 Contact: Integrated Computer Systems, (800) 421-8166
 November 15-18 Advanced C Programming: Hands-On Workshop (San Francisco, CA)
 Contact: Integrated Computer Systems, (800) 421-8166
 November 15-18 CASE: Computer-Aided Software Engineering, Hands-On (San Francisco, CA)
 Contact: Integrated Computer Systems, (800) 421-8166
 November 15-18 Computer Graphics: Software Techniques & Hardware Components (Toronto, Canada)
 Contact: Integrated Computer Systems, (800) 421-8166
 November Digital Communication Systems: Design & Applications

Need qualified applicants to fill computer jobs? Week after week, enterprising recruiters rely on MacWEEK Career Opportunities to find them. We'll put the country's most experienced computer professionals at your disposal, from Systems and Communications specialists to Engineering/R&D and Technical Sales & Marketing professionals. They're waiting to see your ad.

ADVERTISE IN
 MacWEEK CAREER OPPORTUNITIES

HyperCard Teams Form

HyperPro, the leading developer of HyperCard stacks, is offering opportunities for HyperCard development specialists, including multimedia production. Participate in unique teamwork experience learning systems, interfaces, presentations and applications. We need:

Project Leaders
 Instructional Designers
 Writers
 Graphics Designers
 Screen Illustrators
 Scriptors
 XCMD Programmers
 Test Engineers
 Admin. Assistants

Contact:
 Elda Coleman
 HyperPro, Dept. MV
 9925 Stevens Creek E.
 Cupertino, CA 95014
 (408) 446-4800



E YOU
 THE
 CAL
 YOU
 D.

MARKETC

PROGRAM

anced Pro

opment in Object Pa
tabase
mmunications
lti-Tasking

ohn Hayes at (703)

Macintosh
Database
ogramming

usively Macintosh
sively 4th Dimensio

A. Eglett, Deirdre L. Malo
ly Great! Software

d Hill Avenue
6, Suite 224
lesa CA 92626
754-4443

Software is a trademark of 'Insanely Great' Soft
registered trademark of Apple Computer, Inc.
is a registered trademark of Acorn, Inc.

USED

Used Mac's &
Buy, Sell & Hors

C Parts
all!!

Specia
of the
Week!
Lo

eve
tems Fax #

MacHeaver
needs You!

& sell used Macs & Mac
ls.

Mac systems

sell new Mac peripherals*
featuring these products:

mine • Dynamac
co • Seikosha
rex • Olympia

you'd like your product featured!

3) 263-2567

and Homes to Experienced Macs Since 19

FOLD HERE FOR MAILING

DO NOT STAPLE—TAPE HERE



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

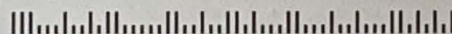
BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 1421 CHERRY HILL, NJ 08034

POSTAGE WILL BE PAID BY ADDRESSEE

MacWEEK

P.O. Box 5806
Cherry Hill, N.J. 08034-9641



FOLD HERE FOR MAILING

DO NOT STAPLE—TAPE HERE

ACCESSORIES

NO MORE LOST DISKS!

Finally, store all of your floppy disks in one convenient case...

The DISK-O-TECH Floppy Disk Case securely holds from 1 to 320 3.5-inch disks utilizing a novel patent-pending foam spacing/organizing system. Each case is molded from high-density black polyethylene with grain-reinforced exterior and double wall construction for superior strength and protection. Heavy-duty solid polypropylene handles, a mechanical latch, and injection-molded latches of tough polycarbonate ensure long life under constant use. One year warranty.

\$69.99 plus \$3.00 s/h Check, MO, MC, VISA TX residents add tax

P.O. Box 583, Suite A, Arlington, TX 76010
(800) 288-4447

DISK-O-TECH

40%
factory direct!

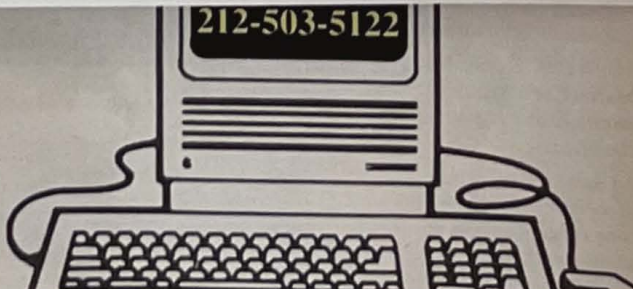
CAD-CAM
WORKSTATIONS
LASERWRITER CARTR
PRINTER STANDS
AND MORE...

Call Now
For Free Catalog

1-800-333-8095

The Walker Company Petaluma, CA

212-503-5122



General
Informat
Career
Opportun

For information
place your recr
advertisement c

Jay McGe
Sr. Account M
(212) 503-

May Her
Regional Sales
(212) 503-
or call (800) 2

Cathy Edv
Career Oppor
Advertising 1

Mailing Inst
Please send all
ready artwork c
Roberta Gross
MacWEEK
One Park Aven
3rd Floor
New York, NY
Telecopier (212

Ad Closing
Friday, 11 AM
Time 11 days k
issu

CAREER OPPORTUNITIES

MacWEEK

General Information Career Opportunities

For information or to place your recruitment advertisement call:

Jay McGetrick
Sr. Account Manager
(212) 503-5162

May Herkert
Regional Sales Manager
(212) 503-5163
or call (800) 288-HIRE

Cathy Edwards
Career Opportunities Advertising Director

Mailing Instructions

Please send all camera ready artwork c/o
Roberta Gross
MacWEEK
One Park Avenue
3rd Floor
New York, NY 10016
Telecopier (212) 503-5197

Ad Closing
Friday, 11 AM Eastern
Time 11 days before
issue date

Senior Software Analyst

Varityper, Inc., is a major manufacturer of computerized photocomposition systems. We need a talented Senior Software Analyst to join a small team within our Engineering Department, working on a state-of-the-art image processing project. We are looking for expertise in Macintosh graphics applications and fluency in C and Assembler. Postscript and AppleTalk skills would be distinct pluses.

Candidates should have a BSCS/BSEE and at least 3 years' relevant software development experience.

Please send your resume (or a postcard with your phone number and we'll call you to discuss the opportunity) along with your salary history to: **Employment Manager, Varityper, Inc., 11 Mt. Pleasant Ave., East Hanover, NJ 07936** (or use AppleLink: V0351).

Principals only please • An Equal Opportunity Employer M/F/H/V

Varityper

a Tegra Company

COURSES & SEMINARS

- | | |
|----------------|--|
| November 1-4 | Computer Graphics: Software Techniques & Hardware Components
(Washington, DC)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | 16 & 32-Bit Microprocessor System Design
(San Diego, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Computer Network Management & Control
(Washington, DC)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Computer Network Design: Protocols & Layered Architectures
(San Francisco, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Digital Signal Processing: Techniques & Applications
(Washington, DC)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Digital Control Systems: Design Techniques & Tools
(San Francisco, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Effective Skills for Technical Managers
(Washington, DC)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Image Processing & Machine Vision
(Los Angeles, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Project Management: Planning, Scheduling, Tracking & Controlling
(San Diego, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Real-Time System Design: A Hands-On Workshop
(Los Angeles, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Software/User Interfaces: Design Principles & Techniques
(Los Angeles, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | Structured Design & Programming
(Boston, MA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 1-4 | UNIX Hands-On Workshop
(Los Angeles, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 2-4 | Software Requirements & Specifications
(Washington, DC)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 2-4 | Software Maintenance
(Montreal, Canada)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 15-18 | Advanced C Programming: Hands-On Workshop
(San Francisco, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 15-18 | CASE: Computer-Aided Software Engineering, Hands-On
(San Francisco, CA)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 15-18 | Computer Graphics: Software Techniques & Hardware Components
(Toronto, Canada)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 15-18 | Digital Communication Systems: Design & Applications
(Ottawa, Canada)
Contact: Integrated Computer Systems, (800) 421-8166 |
| November 15-18 | Integrated Voice/Data Communications & ISDN
(Washington, DC)
Contact: Integrated Computer Systems, (800) 421-8166 |

Macintosh System Engineer

Philadelphia area. Qualifications: BS Degree, one year Macintosh System Engineering experience with Macintosh connectivity to IBM, DEC, and Wang computers, Unix experience a plus. Attractive compensation package and company car. Please send resume to:

V.S. Computer Application Group
485 Parkway South
Broomall, PA 19008

Product Managers

Fast growing San Francisco based Macintosh peripherals computer company has available positions for product managers.

Send Resume to:

Human Resources Director
P.O. Box 1119
Mountain View, CA 94042

HyperCard Teams Forming

HyperPro, the leading developer of HyperCard stacks, is offering exciting opportunities for HyperCard development specialists, including multimedia production. Participate in a unique teamwork experience. Create learning systems, network interfaces, presentations and applications. We need:

Project Leaders
Instructional Designers
Writers
Graphics Designers
Screen Illustrators
Scriptors
XCMD Programmers
Test Engineers
Admin. Assistants

Contact:
Elda Coleman
HyperPro, Dept. MW1
19925 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 446-4800



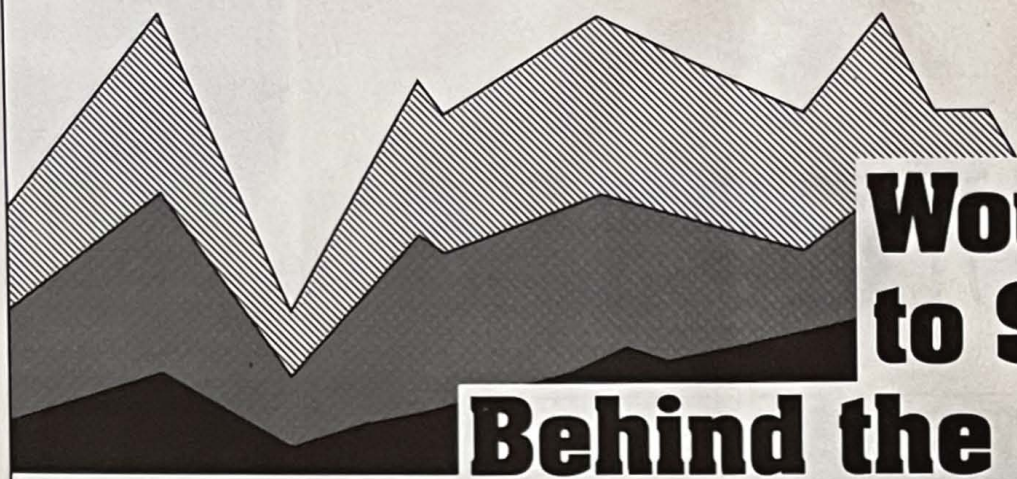
IT'S TIME YOU FOUND THE TECHNICAL TALENT YOU NEED.

Need qualified applicants to fill computer jobs? Week after week, enterprising recruiters rely on MacWEEK Career Opportunities to find them. We'll put the country's most experienced computer professionals at your disposal, from **Systems and Communications specialists to Engineering/R&D and Technical Sales & Marketing professionals**. They're waiting to see your ad.

ADVERTISE IN
MacWEEK CAREER OPPORTUNITIES

For more information or to place an ad, call Jay McGetrick or May Herkert at 800-288-HIRE

MacWEEK



Wouldn't it be Great to See the Numbers Behind the Printed Graphs?

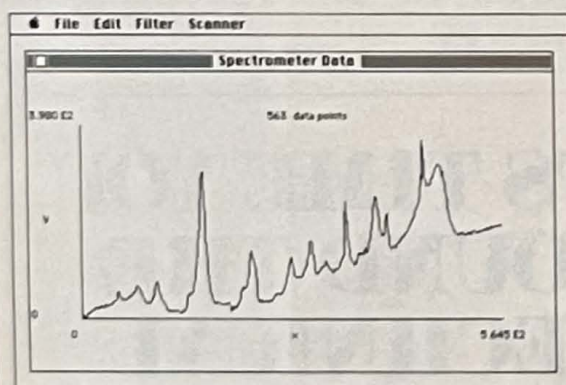
Now you can, with Data Scan!

Data Scan is the first image processing software for the Macintosh that lets you recover numeric data from printed (hard copy) graphics.

"Data Scan... fills a gap in the area of technical analysis. Anyone who needs to extract numeric data from hard copy graphics will find it invaluable."

—MacWEEK, August 16, 1988

Data Scan, the graphic equivalent of an optical character reader, quantifies bar charts, line charts, area charts, log/log, log/linear, linear plots, and more!



The first pass through Data Scan identifies both axes and displays all points interpreted as data.

Data Scan analyzes bitmaps in MacPaint, Uncompressed FOT, TIFF, or Thunder-scan format capturing the numbers behind the graphic presentation.

With the help of a scanner, **Data Scan** can extract numeric data from graphics in newspapers, journals, or any hard copy source when the original numeric data is not available. **Data Scan** has a number of impressive options that allow you to process even imperfectly scanned graphs.

Numeric data captured by **Data Scan** can be quickly imported as text into a spreadsheet or statistics package.

Data Scan and StatView 512+

The perfect complement to **Data Scan** for curve comparison, **StatView 512+**, from BrainPower, is the most widely used Macintosh statistical analysis package.

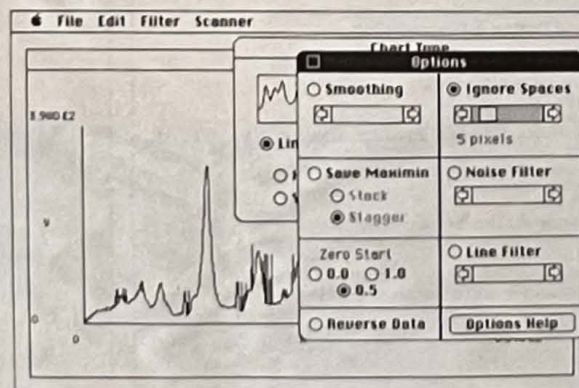
Taking full advantage of the Macintosh interface, **StatView 512+** easily imports numeric data from **Data Scan** and compares that data for "goodness of fit" using Chi Square or Regression analyses.

Once your data is in **StatView 512+**, variables are defined, analyses are run, and graphic views are produced within seconds!

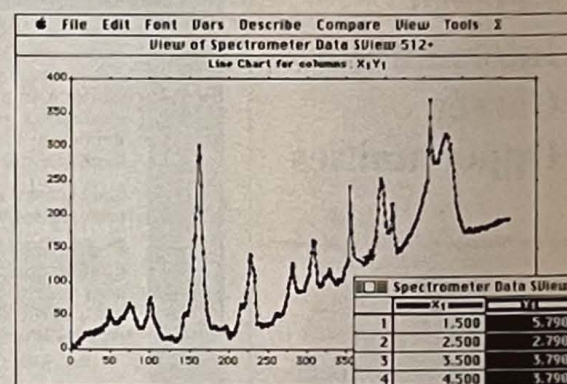
Data Scan and DesignScope

DesignScope, BrainPower's electronic system design package, is also an excellent companion product to **Data Scan** for amplitude domain and frequency domain curve comparisons.

Additionally, imported data from **Data Scan** can be analyzed in **DesignScope** for partial or total integration under a curve.



Several options help optimize processing quality



Numeric data from Data Scan plotted in StatView 512+

Data Scan also available in the "Analyzer" package!

Now you can purchase three significant BrainPower applications in a single, bundled package called the "Analyzer." The **Analyzer** consists of **Data Scan**, **StatView 512+** and **DesignScope**, and is the ideal tool for curve comparison analysis. The **Analyzer's** suggested retail price is \$599.95.

Data Scan...\$199.95; requires a minimum 512K memory.

Also from BrainPower...

MathView Professional: powerful numerical analysis package. \$249.95

StatView 512+: interactive, graphic statistical analysis. \$349.95

DesignScope: electronic system design—simulate systems before designing component circuitry. \$249.95

New! ArchiText: powerful, easy-to-use text retrieval, management and presentation package—for the analysis and/or synthesis of textual data. \$349.95

BRAINPOWER, INC.

24009 Ventura Blvd., Calabasas, CA 91302
(800) 345-0519 • (818) 884-6911 (inside CA) • (818) 884-6931 (FAX)



Small dealers band together

Tension with chains leads to new organization

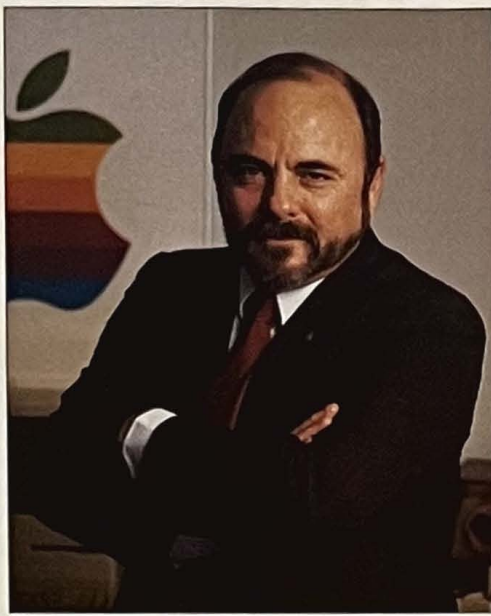
BY ALAN BRODY

DALLAS — Simmering tensions between Apple's traditional independent dealer base and the large chains the company increasingly counts on as its corporate connection broke into the open last month when 100 smaller resellers formed an organization of their own.

"It spread like wildfire," said John Crow, spokesman for the fledgling coalition called the Independent Apple Dealers Association. "All the leading independent dealers expressed support."

Crow is president of Memory Bank, a two-store dealership in Virginia Beach, Va.

The new group, which limits itself to non-franchised, authorized Apple storefront dealers with hands-on owners, emerged during a conference of the Association of Better



John Crow, president of Memory Bank, said that independents are "at the bottom of the totem pole."

Computer Dealers (ABCD) held here. The IADA will elect its officers in March.

The main issue for independents,

Crow said, is that they are "at the bottom of the totem pole." While Apple consults with the large chains about many major policy issues, he said, independents increasingly feel ignored.

Apple's dealer pricing policy is another sore point, participating dealers said. Since dealer discounts vary with volume — from 34 to 43 percent or more off list prices — the buying power of the chains enables them to cut prices, undercutting smaller independents significantly.

Other issues concern Apple's service policies. Some dealers said that Apple requires them to keep an

See IADA, next page

Adobe buys TrueForm maker

BY CLAIR WHITMER

MOUNTAIN VIEW, Calif. — Adobe Systems Inc. has bought into the forms-processing market with the acquisition of Spectrum Digital Systems and its TrueForm product.

First introduced in December 1987 by the Madison, Wis.-based Spectrum Digital, TrueForm was designed to speed the process of filling out existing forms.

After a form is scanned into the computer, the \$495 package provides tools to make each on-screen field intelligent. The user can then tab from field to field to fill out the blanks and compute column totals and other basic arithmetic.

In a deal scheduled to take effect early this week, Adobe purchased complete rights to the product, and the privately held Spectrum closed its doors. Nine of the 10 employees who worked at Spectrum, including Spectrum President Mitch Stein, will be moving to Mountain View, Calif., to take jobs at Adobe.

"There seems to be some polarity. Some people can't see why Adobe would be interested and other people see it as a perfect fit," said Stein, who includes himself in the latter category.

As the newly named engineering manager in charge of Adobe's forms products, Stein will oversee TrueForm's redesign. Future versions will include Illustrator-like drawing tools and the ability to import Encapsulated PostScript files, Stein said. Adobe will continue to provide support for current TrueForm owners, he said.

There will also be a version of TrueForm to support ACIUS' 4th Dimension so that fields in a form can be automatically linked to counterparts in a database, he said.

Details such as a new name, price or release date for the next version have not yet been determined. Although he wouldn't specify the price Adobe paid for Spectrum Digital Systems, Stein said that both companies "drove a hard bargain."

The forms market and several small companies with forms products went relatively unnoticed until Claris validated the market with the announcement of its SmartForms product line last January.

Since then, industry pundits and marketing departments in several companies have taken a much harder look at the potential of forms-

processing software.

"This acquisition will be our strong positioning statement in the [forms] area," said LaVon Collins, an Adobe representative.

Adobe initiated the deal, according to Stein. He decided to take the offer because his past efforts to get sufficient marketing funds had been frustrated.

After a rush of publicity for forms products from Claris and Camarillo, Calif.-based SoftView, neither of which have yet shipped, Stein said he realized that the competition was a little rough for such a small company. □

General Parametrics sues Cricket for 'Video Show' name

BY CONNIE GUGLIELMO

BERKELEY, Calif. — Claiming trademark infringement on the part of Cricket Software, General Parametrics Corp. last month filed suit against the Malvern, Pa., graphics software developer. At issue is Cricket's use of the name "Video Show" to describe the slide-show feature in Cricket Presents..., its desktop presentation program.

General Parametrics said it has a trademark on the name VideoShow, which it uses to describe its 4-year-old hardware presentation system for the IBM PC. The Berkeley, Calif.-based company is currently developing a Mac version of the product for release early next year (see MacWEEK, Oct. 25).

"The name 'VideoShow' is a registered trademark," said Herb Baskin, president of General Parametrics. "We registered and

released our product well before there was a product from Cricket."

Cricket uses the term "Video Show" to refer to the slide-show feature in its desktop presentation program, which was released in April.

But Cricket may rather fight than switch, said CEO Barry Schuler. He said his company is considering challenging General Parametrics' trademark on the grounds that the words "video" and "show" are generic presentation terms.

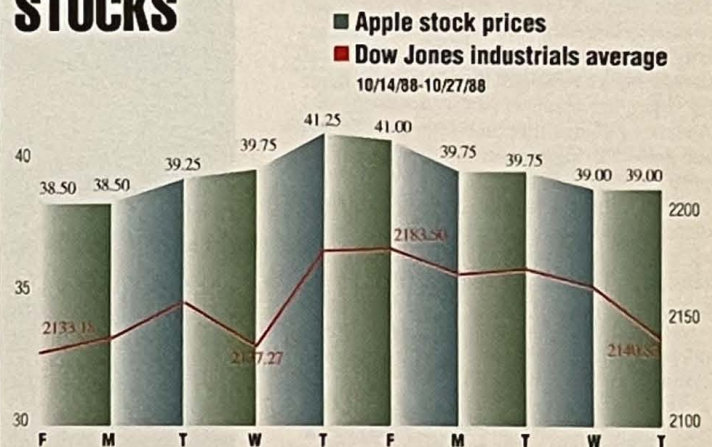
"I understand there might be confusion in the market, especially since [General Parametrics is] developing a Mac version of its system," Schuler said. "But we think it's an invalid trademark. Our contention is they can't remove the words 'video' and 'show' from the industry."

According to Schuler, Cricket has already filed a counter suit but has not yet decided whether it will pursue the trademark challenge. □

THIS WEEK

- Small, independent Apple dealers unite, this page.
- Adobe enters forms-processing market, this page.
- Cricket sued for trademark infringement, this page.
- 'Minor' restructuring at Insignia, Page 70.
- Apple renews contract with Falcon, Page 71.
- Engineering Department's key behind-the-scenes role at Apple, Page 72.

STOCKS



Macintosh-related stocks

COMPANY	OCT. 20	OCT. 27	% CHANGE
ADOBE	47.25	44.00	-6.88
ALDUS	18.50	17.75	-4.05
APPLE	40.00	39.00	-2.50
ASHTON-TATE	25.00	25.25	+1.00
BUSINESSLAND	13.25	13.50	+1.89
MICROSOFT	53.25	49.50	-7.04
MOTOROLA	39.50	38.38	-2.84
QMS	7.00	7.13	+1.86
SEAGATE	7.38	7.75	+5.01
3COM	19.25	18.63	-3.22
DOW JONES	2,181.19	2,140.83	-1.85

MARKETWEEK

Demand for color expected to grow

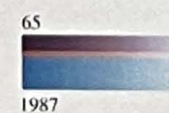
Inability to produce multiple copies of color documents quickly and cheaply has inhibited the sale of color printers as well as color monitors, boards and software. However, many new announcements of color copiers have been made recently, and these copiers are expected to go below the \$20,000 price barrier soon.

According to CAP International, a Norwell, Mass., research company, revenue from sales of color copiers will increase from \$65 million in 1987 to \$860 million by 1992. The electrophotographic copier segment will grow most rapidly because those copiers offer the fastest copy speeds and can produce overhead transparencies. — By Griffin Dix

Revenues from color copiers (in millions of dollars)

Other
Thermal transfer
Photographic
Electrophotographic

Source: CAP International



IADA

Continued from previous page

unnecessarily large parts inventory on hand. Others complained that they are obliged to provide warranty service for any Apple machine, even those sold by unauthorized dealers. These machines have often been emptied onto the "gray market" by chains buying in numbers large enough to make quota. Some independents also cited insufficient co-op and marketing funds from Apple.

The starting point of IADA was the revelation last December that Apple was actually paying the salaries of a national chain's employees from its marketing dollars. Since most marketing and co-op funds involve "soft" dollars (such as credits applied to future purchases), the idea of hard cash going to a select few galvanized the independents. They had already been suspicious that Apple was ignoring them, the pioneers of the Apple channel, in favor of chains that may offer less service but generate bigger numbers and promise more corporate sales.

"The large chains are the single biggest source of end-user complaints," said Crow, citing an industry survey from 1987. "Our bottom line is providing a better service for the end user."

A loose-knit federation of New England independents, formed early this year, has now folded into IADA, Crow said.

The emergence of the new group came, ironically, on the heels of the announcement of Apple's new Earned Incentive Program, which rewards dealers with cash for providing certain kinds of services (see MacWEEK, Oct. 11). For example, having a sales representative dedicated to a specific market like desktop publishing or CAD/CAM could earn the dealer as much as \$5,000 per quarter; an outbound Apple service representative can get the dealer \$3,000.

"The EIP was a stroke of genius," said Crow, and "a gigantic step in the right direction to level the playing field."

Paradoxically, as Apple was giving attention to the independents, it seems to have raised fears that the plan will not help all dealers or that it may not be fairly applied. Very small and very large multistore independents may not benefit as much as others in between, dealer sources said. There is also a perception that chains get more attention and market information from Apple. A persistent rumor among some dealers is that one chain had advance knowledge of the recent Apple price hikes, which hurt dealers forced to honor long-term delivery contracts at lower prices.

Crow played down any conflict between Apple and his group. "This is not a lynch group. We are not looking to hang somebody."

"I see this as a lobbying group," said Barbara Droutman of the two-store ByteShop of Long Island, N.Y.

The IADA formed "almost spontaneously," according to participants. Ironically, the ABCD event that spawned it was called Break-away '88. Crow said, however, that his group has no intention of breaking away from the larger dealer organization.

But one member belonging to both groups said there may be reason to expect tension. "ABCD is not looking for a fraternity within a fraternity," the source said, noting that the chairman of the ABCD board, Alan Hald, is also chairman of a franchiser (MicroAge) the members of which are not permitted to join IADA. Hald was not available for comment.

Apple's director of dealer sales, Mark Aschauer, who heard about IADA only as a rumor, was at first perplexed. "A lot of those issues have been addressed by our policy statements over the past six months," he said. His reaction to IADA's formation, however, is that the group is "tremendous if the spirit of it is to strengthen the channel." □

Apple's interest may have led to 'minor' shakeup at Insignia

BY JON SWARTZ

SUNNYVALE, Calif. — Insignia Solutions Inc., developer of SoftPC, an MS-DOS emulation program for the Mac, has undergone a "minor restructuring."

The changes, however, could have been prompted by Apple's keen interest in SoftPC and future Insignia products. According to

sources close to Insignia, Apple has an estimated \$850 million in pending Mac bids that specify SoftPC, and it has expressed an interest in acquiring the Sunnyvale, Calif., developer.

Former Insignia CEO Thomas Billings and several other senior executives stepped down last month, said Nick Samuel, Billings' replacement. Billings will remain with Insignia as a consultant and board member, he said.

Insignia spokesman Chad Hill downplayed the personnel changes, calling them "a minor restructuring." He said the company will "continue on course."

But sources familiar with Insignia who wish to remain unidentified said the consortium of British and Dutch venture capitalists that financed Insignia elevated English investor Samuel to CEO to take more direct control of the company.

About \$6 million has been invested in the 51-person company, which employs 34 engineers and technical researchers in England.

Insignia is rumored to be working on Soft-AT and SoftSparc versions of its emulation software line. □

**At MacPEAK, The Fine Art Of Design
Always Results In One Thing:
A Stroke Of Genius.**



Apple renews Falcon pact

BY RENEE MATHEWS

CUPERTINO, Calif. — Apple recently extended the contract that makes Falcon Microsystems its exclusive authorized channel for sales to the federal government's General Services Administration.

The Landover, Md.-based reseller will remain the sole holder of Apple's GSA supply letter for Schedules B and C for at least another year.

The GSA schedule determines the prices

and conditions under which federal government buyers can purchase products.

Unlike other personal computer manufacturers, which either solely hold their schedule or co-hold it with a dealer, Apple has elected to contract its schedule to Falcon for the past five years. "We believe [that contracting to Falcon] allows us more flexibility to develop more comprehensive plans for serving the federal government," said Phillip Dunkelberger, Apple's federal marketing manager. "Falcon has the infrastructure to support the schedules, and it

provides us with a single focus for the GSA portion of our federal government procurement."

Dunkelberger said that Falcon is one of Apple's largest dealers nationwide. Sources close to Falcon said its sales will top \$50 million this year (see MacWEEK, June 14).

Under the latest contract, Falcon will merge Apple's Schedule B, designed for peripheral equipment and computer accessories, with Schedule C, for CPUs, into a single Schedule B/C contract.

"The government has decided to merge the schedules this year to provide an easier means of buying both components," he said.

The Apple/Falcon agreement will be effective from April 1, 1989, to March 31, 1990. □

SPA plans to expand services

BY EMILY BROWER

WASHINGTON — The Software Publishers Association may be a non-profit organization, but since it was founded in 1984, this industry trade group has had no trouble staying in the black.

This year revenues from membership dues and conference fees exceeded expenditures by more than \$200,000.

"It's a small source of embarrassment for me," said Ken Wasch, SPA executive director. "Next year we want that number to be zero."

To bring the books into balance, the Washington-based association has budgeted \$1.7 million to expand services for its 400 members, all of whom are microcomputer software publishers. The SPA plans to divide into three sections covering the business, consumer and education sectors and to form special-interest groups for such categories as Macintosh developers and engineering software developers.

In addition, the SPA recently completed a member survey to determine which of its services to expand. These services fall into three broad categories: promotion, protection and information, according to Wasch. Promotion, or what he called "giving the industry a good face," includes SPA-sponsored programs like Computer Learning Month and activities like the Excellence in Software Awards.

Wasch called the second category the "dark side of the force": protection of software copyrights. Wasch, who is also a lawyer, said that protection of software copyrights is the second most important function of the SPA. Last spring, with the support of Lotus, Ashton-Tate, Microsoft and WordPerfect, the SPA formed the Copyright Protection Fund to fight software piracy in the United States.

This year the SPA has filed 10 piracy cases, many against computer dealers who illegally copy software onto the hard disks of new computers to attract customers. Two of these suits were settled in mid-October when the defendants agreed to pay the full damages requested by the plaintiffs. Wasch said that the SPA intends to continue fighting piracy and plans to file a piracy suit against a corporation within the next few weeks.

The SPA is also lending financial and legal support to a piracy suit that may go all way to the Supreme Court. The case was filed against the University of California, Los Angeles by BV Engineering, a Riverside, Calif.-based engineering software developer. Because of a provision in the 11th Amendment that exempts states from being sued under federal laws, the case was thrown out of court, according to Bert van den Berg, president of BV Engineering.

The SPA joined forces with BV Engineering when van den Berg decided to file an appeal. Earlier this month that appeal was turned down, and the SPA intends to request that the case be heard by the Supreme Court.

The SPA's information services include gathering data for its members. Every month, members who wish to participate in the data tracking program send confidential sales data to the accounting firm of Arthur Andersen & Co., where the data is compiled into quarterly reports. These reports, available only to participating members, show market sales for 21 categories of software by type of computer. Expansion of these services, however, may not be enough to soak up the SPA's excess capital. If the industry continues to grow at a steady rate, Wasch predicted that SPA revenues may top \$2 million, leaving the association with more money to burn. □

MacPEAK Unveils A New Collection Of High Performance Peripherals For The Macintosh Family.

The artists at MacPEAK have been at it again. Designing the most innovative products for Macintosh computers on the market today. Our palette features a wide variety of high performance upgrades, colored with an eye for attractive pricing. Simply stated, no one offers you a better product—at any price—than MacPEAK.



The Orion™ SE^{20/25} Accelerator. A full-featured multispeed accelerator card for the Macintosh SE, the Orion SE replaces the SE's standard 8 MHz 68000 microprocessor with a 68020 processor, running at either 20 or 25 MHz.

The Orion SE also supports two co-processors: the 68851 Memory Management Unit, and either a 68881 or a 68882 Math Co-processor. The Math Co-processor performs math operations up to 100 times faster than a stock SE. Additionally, using the Orion SE's 8 standard SIMM sockets, users can expand to a full 8 megabytes. The result of all this power is a machine that's able to outperform a Mac II by as much as 3 times!

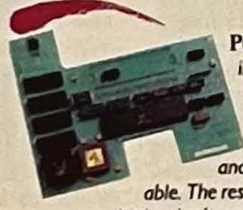
both screens with big screen on either side (left or right-hand flexibility), image magnification, and more.



Galaxy II. Galaxy II is MacPEAK's 19" Monochrome Video Controller for the Macintosh II, using the most advanced high-speed ECL technology. With its bright, stable 1024 x 890 image, the quality of the Galaxy II equals the original Macintosh screen. One look and you'll see the difference!



The Orion One Accelerator. The Orion One is an entry-level accelerator card for the Macintosh Plus or Macintosh SE. The Orion One replaces the native 8 MHz 68000 with a faster 16 MHz 68000 and 16k of zero-wait-state static RAM. The result: up to 2.5 times better performance. The Orion One also supports an optional 68881 Floating Point Math Co-processor. Using the optional 68881, math-intensive applications can see performance increases in excess of 30 times.



Pegasus™ Plus and SE. MacPEAK introduces Pegasus, a cutting-edge graphics system for the Macintosh Plus and SE. It's a powerful combination of Orion One accelerator technology and the finest ECL graphics drivers available. The result is an incredibly bright, crisp large-screen display that's every bit as good as the original. Fast? You bet. With its 16 MHz 68000 microprocessor and zero-wait-state static RAM, refresh and redraw times are up to 3 times faster than an ordinary large screen monitor. Pegasus works wonders for PageMaker® and other layout programs!



The Orion II^{20/25} Accelerator.

The Orion II is a state-of-the-art accelerator for the Macintosh II. Using NuBus, it replaces the Mac II's 16 MHz 68020 with a 25 MHz 68030, supported by 256k of zero-wait-state static RAM. Users can optionally add up to a megabyte of static RAM, and the new 68882 Floating Point Math Co-processor. The static RAM serves as a general function cache, greatly enhancing the performance of all applications, including A/UX. The advanced cache technology also works with other NuBus cards, like 24-bit video cards, thereby substantially increasing their performance as well. The Orion II is able to boost a Mac II's performance by 2-4 times. With supporting applications, the 68882 is able to do floating point calculations up to twice as fast as the 68881.



ST-60™ and ST-150™. With our ST family of streaming tape backup systems, you can store up to 150 MB of data at the speeds you're accustomed to from MacPEAK. Quality TEAC mechanisms, double data integrity checking, and speeds of 3-5 MB/minute make the ST family the fastest and most reliable backups available today. The ST family is fully network compatible and supports file-by-file, mirror image, incremental, timed backups, and even multiple backup sessions per cartridge.

To find out more about these works of art from MacPEAK Systems, call 800/225-7509 for the dealer nearest you.

MacPEAK
SYSTEMS
VISION. INNOVATION.
PERFORMANCE.

1201 Spyglass, Austin, Texas 78746 800/225-7509 512/327-3211 FAX 512/327-9553

Orion, Galaxy, Pegasus, ST-60 and ST-150 are trademarks of MacPEAK Systems. Macintosh is a registered trademark of Apple Computer Systems, Inc. PageMaker is a registered trademark of Aldus Corp.

Engineering behind the scenes

Former Apple staffers surface with Lumpy

BY STEVE ROSENTHAL

CAMPBELL, Calif. — With four of Apple's first six engineers, five of its first 27 employees and a continuing series of contracts from the Cupertino, Calif., computer maker, a small company called simply The Engineering Department has apparently been playing a little-known key role in the evolution of several Macintosh and Apple II technologies.

While still decidedly mum about that aspect of its business, the company's executives have said that its low-profile days are apparently over. One third-party Apple II product the company openly acknowledged designing is shipping, and a Mac add-on is about to be released.

Originally, said founders of the Campbell, Calif., company, they had envisioned a typical Silicon Valley success story. "We started The Engineering Department for the challenge," said Wendell Sander, a former Apple engineer and now The Engineering Department president. "From the beginning, we wanted to design, produce and market products."

But for most of its three years of existence, the company with a personnel list that reads in part like an Apple honor roll has quietly prospered on contract-engineering R&D projects. "Disk controllers, industrial controllers, personal computers, a

video game, you name it," Sander said in listing The Engineering Department's areas of interest.

Apple, he said, has been a steady client since he and his colleagues opened the doors. "We have had contracts with Apple practically without break," Sander said. "We have an amicable relationship."

What has the company done for Apple? As with most of its contract engineering, The Engineering Department has done its work for Apple under non-disclosure agreements, so specific projects really can't be discussed, according to Sander. "They've actually been on a wide variety of subjects." Apple similarly declined to comment.

Outsiders said that one likely area of collaboration has been the new Apple drive officially dubbed Floppy Disk, High Density (FDHD), but commonly called the SuperDrive. The drive, already built into the recently announced Mac IIx and scheduled to be offered as an upgrade for earlier Mac IIs and the SE, is capable of reading 3.5-inch disks formatted on IBM PCs and compatibles as well as Apple IIs.

Sander and Engineering Department compatriots Cliff and Dick Huston played key roles in the development of Apple's original disk drives, and Sander, building on the work of Apple co-founder Steve Wozniak, designed the IWM (Integrated Woz Machine) chip that controls the disk on current models of the Macintosh. The new drive is run by a controller called the SWIM chip. Officially, Apple has said the acronym stands for Super Woz Integrated Machine. But originally,

Apple engineers have acknowledged privately, the "S" stood for Sander, not Super.

Furthermore, the one shipping product The Engineering Department admitted designing is the PC Transporter, an MS-DOS coprocessor for the Apple II now manufactured and sold by Applied Engineering of Carrollton, Texas. In addition to running MS-DOS, that board broadens the capabilities of 3.5-inch or 5.25-inch Apple II disk drives, giving them the ability to read Apple II and IBM PC-formatted disks of the appropriate size interchangeably.

The Engineering Department's own debut product, due out in January, is also a disk controller add-on. The product, currently tagged with the ungainly code name of Lumpy, is expected to be called SuperPort when released. It is a small external device that plugs into the floppy disk port of the Mac Plus and SE. Once installed, it will increase the capacity of both internal and external 800-Kbyte floppy drives to 1.2 Mbytes, just short of the 1.44-Mbyte capacity of the Apple SuperDrive itself.

The device will also allow a Macintosh to read disks in both Mac and IBM formats through internal or external floppy drives and to write in either format on external drives.

The box, said Cliff Huston, chief operating officer, is completely external, so it will work on a Mac Plus as well as the later Macs. (With their disk-controller chips soldered to the logic board, Mac Pluses will not be eligible for the SuperDrive upgrade program, according to Apple.) The price is expected to be about \$300, according to Huston.

The Engineering Department plans to triple its current staff of 17 in the next few months to add marketing, production management, quality control and shipping since it now has a product ready to go and because the company sees a rapidly growing market of Mac users with PC-style laptops and dual-machine users. The actual manufacturing will be contracted out.

Lumpy, however, is only the first Engineering Department-labeled product, according to company plans. "We've got more projects coming along," said Sander. "You'll hear a lot more about us in the future." □

Dealers confront CAD support issues

BY WILL McCLATCHY

With the number and sophistication of CAD packages on the Mac increasing dramatically over the past year, dealers have been left to wrestle with mounting demands for training and support in this specialized field.

Some dealers are balking at the high-end CAD game, abandoning it altogether to value-added resellers. Other dealerships are building VAR services in-house, while still others are seeking alliances with VARs experienced in the field.

"The Mac is made for the CAD environment, but it takes specialized expertise to get behind and support CAD," said Susan Crocker, vice president of marketing and communications at Businessland Inc.'s San Jose, Calif., headquarters.

Specialists familiar with niche markets and thoroughly trained in relevant software are needed for many CAD solutions, she said. Businessland's current strategy is to ally itself with respected VARs to provide users with full solutions at a reasonable price, Crocker said.

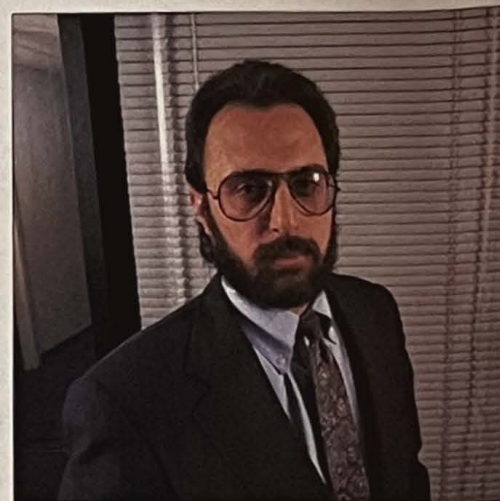
A major Businessland competitor, ComputerLand, has adopted another strategy designed to keep CAD customers from walking out the door. It keeps small teams of highly experienced engineers and architects on staff to sell and support solutions directly to the customer, said Greg Lazarus, CAD/CAM product manager for a ComputerLand outlet in Wallingford, Conn.

"We treat [hiring for CAD] just as a VAR would," he said, which means hiring personnel with experience in the industries that are being targeted.

The previous policy of training retail store employees in high-end CAD did not work, Lazarus said. "They are not engineers and not architects," he said. "They don't know enough about the customer's application and can't support complex systems."

Not all CAD is complex enough, however, to need the intervention of a VAR, and simple-to-use programs can be surprisingly effective, some dealers said.

"PowerDraw (from Computer Shoppe of Greensboro, N.C.) is more powerful than AutoCAD ever thought of being, so why carry a program that is more expensive?" said John Reed, store manager of Connecting Point, an Apple dealer in Atlanta. Users do come back for



Greg Lazarus, a CAD manager for ComputerLand.

support when they hit a snag, but their problems tend to be easily remedied, he said.

At the same time, the store has a department specializing in more-sophisticated CAD/CAM solutions employing the Mac.

Just as dealers are trying more and more to operate like VARs to sell CAD, many VARs have taken on the functions of a dealer to service a customer's needs.

Cambridge Electronics Inc., an Apple VAR in Cambridge, Mass., demonstrates virtually "every single machine ever made by Apple" and carries a host of third-party CAD packages at list price in its showroom, according to Richard Silver, president of the company.

With CAD software for the Mac proliferating, stocking a full selection can be an expensive proposition. Cambridge Electronics deals with the problem by limiting its inventory "so that when a customer comes in, I don't have to find reasons why their needs would be best fulfilled by a box I have in the back." □

Nakamichi buys Mountain

CAMPBELL, Calif. — Mountain Computer Inc., the parent company of Mac storage-vendor Bering Industries, has been acquired by Nakamichi Corp., a Japanese supplier of tape drive equipment. Under the terms of an agreement announced last month, Nakamichi will pay \$45 million in cash for Mountain, which will become a wholly owned subsidiary of the Japanese company but retain its current management.

Bering Industries, which has offices here and manufacturing facilities in Scotts Valley, Calif., markets a line of storage devices for the Mac that use 5.25-inch, 20-Mbyte removable Bernoulli cartridges. Incorporating technology licensed from Iomega Corp. of Roy, Utah, the line ranges from a \$1,295 unit with a single Bernoulli drive to a \$2,945 unit that combines an 80-Mbyte hard drive with a Bernoulli drive. □



Wendell Sander, center, and colleagues with a well-boxed Lumpy.

Layered trims its work force

BY RENEE MATHEWS

BOSTON — Abandoning its plans to move into the IBM marketplace, Layered Inc. has laid off more than 25 percent of its employees.

The layoffs, which went into effect earlier this month, affected about 18 members of the company's 60-member staff, according to Velle Kolde, vice president of finance.

"We've been investigating opportunities outside our Mac accounting platform, and they just didn't work out as well as we anticipated," said Kolde. "So we're going back to the core of our business."

Established in 1983 as a Mac-exclusive developer, the 5-year-old company is best known for Insight, a comprehensive series of integrated accounting packages.

The move follows last month's resignation of Layered President Stephen Burakoff. According to Kolde, Burakoff resigned to pursue other interests but has retained the title of chairman of the board. Kolde is serving as interim president.

"Our Mac development group is still intact, and we intend to introduce more Mac products in 1989," said Kolde. □



Why do so many Mac II Owners Choose National?

Because National memory expansion cards give them:

1. Top A/UX performance

Apple + A/UX™ + National adds up to a powerful workstation. One that gives them the highest performance for their memory-hungry A/UX applications.

What applications do you have in mind? Software development, CAD/CAM, high resolution graphics, large databases, or multi-user applications? The NS8/16 memory expansion card has the power to unleash your creativity.

2. Up to 16 Mbytes of memory in a single NuBus slot

1MB RAM chips to save power consumption and card slots.

And they're 100ns chips to give top performance. Your applications will run dramatically faster.

Your Mac II™ can hold up to five NS8/16's, for up to 80 Mbytes of RAM.

3. Full A/UX Compatibility

The device driver is included. A/UX uses the NS8/16 as system memory so all of your A/UX programs will run without any modification.

Also included is software that allows the expanded memory to be used as a RAM disk in the standard Mac operating system.

You get a full five-year warranty and support from the leader in add-in products for the Mac II.

Join the satisfied Mac II users who have chosen National memory expansion cards

Call today 1-800-538-8510
(in California 1-800-345-4006)



 **National Semiconductor**

Compatible Products Group
Tel: 408-562-4719

Macintosh, Mac II, and A/UX are trademarks of Apple Computer Inc.



MAC THE KNIFE

should suit Apple's aggressive plans to sell the Mac to the K-12 crowd. The heart of the plan is the CD-ROM, the idea being that the player is the only logical home for large educational stacks.

Some developers were quick to point out to

A CD-ROM on every desktop?

No matter who wins, we are apparently going to have an "education" president, which

the Knife that there are other big plans for CD-ROM and the Mac, the NeXT machine's 256-Mbyte magneto-optical drive notwithstanding. They're working on "professional platform" discs aimed at specific professions. Every doctor, for example, could have access to information about every specialist in the country and complete information about all available pharmaceuticals. Or, in a more generic vein, how about a nine-digit ZIP code DA? Also in the works are sports and broadcasting database

discs that probably will change Trivial Pursuit forever.

After considering that CDs can be stamped out while copying bits to an optical disc is a very time-consuming and more expensive proposition, the Knife had to admit that there may indeed be a future for CD-ROM, after all.

And that was before he found out that one of the major announcements at next year's Microsoft CD-ROM Conference will be double- and quadruple-density CD-ROM drives. For

some, say the federal government, 600 Mbytes is just not enough — a gigabyte is more likely to suit their requirements. Credit for developing this technology goes to JVC.

Quote of the week. Apple employee: "I know everything coming out of Apple, and we have nothing in the next two years that will touch the NeXT workstation." Despite such candor, the Knife has to assume that there's really no cause for Apple to worry — yet. Indications are that the delays in getting Steve's baby into the hands of developers may get worse before they get better. One big developer says that NeXT originally promised machines by April, but is telling the organization that there will be unspecified delays, which if nothing else, will probably sell a few extra Sun workstations for NextStep development. Is the NeXT machine in danger of becoming the FullWrite Professional of hardware? Stay tuned.

Apple's attitude about the whole situation was probably best summed up by those previously reported T-shirts that were spied at Apple's headquarters: the ones with a stylized NeVR logo.

Unclear on the concept. Berkeley's BMUG Helpline recently recorded a breathless call from the head of the computer science department at another fine California institution of higher learning. The cause of all the excitement was that he claimed to have found the "first virus in Northern California!" (That would certainly be news to the hundreds of other infected Mac sites throughout the region.) The same esteemed educator stated that the infected 30-Mbyte DataFrame housed 716 instances of the virus, which if true, would be a self-contained item.

One of the Knife's trusted informants called last week to point out that now that Apple's earnings report is out, the real impetus behind last month's breathtaking price increases is evident. Apple's accountants were probably getting nervous about meeting the \$4 billion goal for the year. The hike came just weeks before the fiscal year end, but considering that the company only nudged past the milestone by \$70 million (not that much with stakes this high), there just may be something to his theory.

What's that sound? The old Sonic Finder project at Apple is alive and well, at least as of Oct. 20, the date on Sonic Finder 6.2a1.1 that the Knife heard last week. Most actions on the desktop elicit a mechanical-sounding clank of various pitches. Objects dragged to the desktop cause a swooshing sound that's reminiscent of flying in a commercial jet. About the only nice thing to say about it is that the Cleanup Window option now does the major cleanup that you usually want without your having to hold down the Option key. The annoyance factor is devastating, and the Knife can only hope that this new incarnation won't be included in System 7.0, or System 7.0.3 or whatever Apple eventually settles on. On the bright side, it can be turned off with the Caps Lock key.

The Knife hears that on Tuesday of this week at the UNIX Expo in New York, Hewlett-Packard will come out with a product that just might have a bearing on the Great Intellectual Property suit that Apple slapped on it and Microsoft. The software, called 3D Widgets, gives a "third-dimension" look to UNIX, DOS and OS/2. According to a source at HP, the entire 3-D look could be applied to New Wave, thereby, according to the same HP spin doctor, blunting the thrust of Apple's suit. Does this mean the lawsuit has become the mother of invention?

You won't save a frigid whale by giving your inside information to Mac the Knife, but you will get a MacWEEK mug for your efforts. Call the Knife at (415) 882-7370 or MCI Mac-theKnife.

74 MacWEEK/1 November 1988

FastNet™ — The Power of Intelligent Ether- Networking.

Do you need Ethernet™ communications to:

- Link AppleTalk™ networks together
- Connect Macintoshes™ with UNIX™, VAX™, or PC systems
- Support EtherTalk, TCP/IP, DECnet™, and other protocols
- Realize top speed and performance

Then make your choice FastNet products. Choose the desk-top *FastNet* SCSI controller for the Macintosh 512, Plus or SE. For your Macintosh II, *FastNet II* couples intelligence with NuBus performance. Or choose

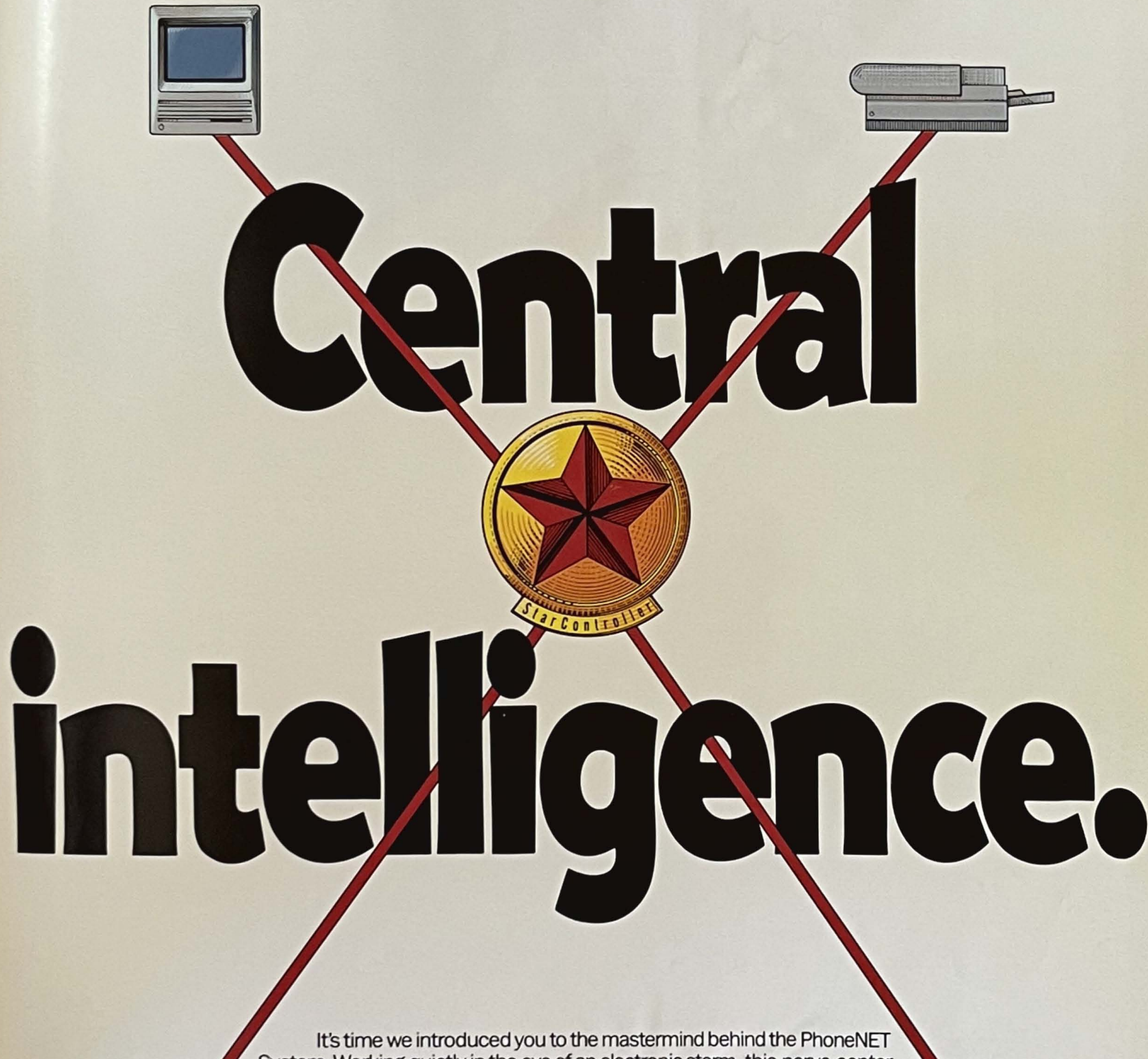
FastNet III, the value-priced, high-performance NuBus Ethernet adapter for the Mac II.

Make the intelligent connection: call Dove Computer Corporation for additional FastNet information. 1-800-622-7627.



1200 North 23rd St.
Wilmington, North Carolina 28405
(919) 763-7918

FastNet is a trademark of Dove Computer Corporation. Ethernet is a trademark of Xerox Corporation. AppleTalk, Macintosh and EtherTalk are trademarks of Apple Computer, Inc. UNIX is a trademark of AT&T. VAX and DECnet are trademarks of Digital Equipment Corporation.



Central intelligence.

It's time we introduced you to the mastermind behind the PhoneNET System. Working quietly in the eye of an electronic storm, this nerve center insures that information travels reliably from agent to agent.

Code name: The StarController.

The PhoneNET StarController is an intelligent device that helps you build and manage AppleTalk networks. With its StarCommand software, the StarController will detect, isolate and diagnose problems on your network, reduce error rates, and monitor network activity.

So, should you accept the mission to build a better network, make it a success with the StarController. Your Farallon dealer has a complete dossier. Call (415) 849-2331, ext. 94 for the dealer nearest you.

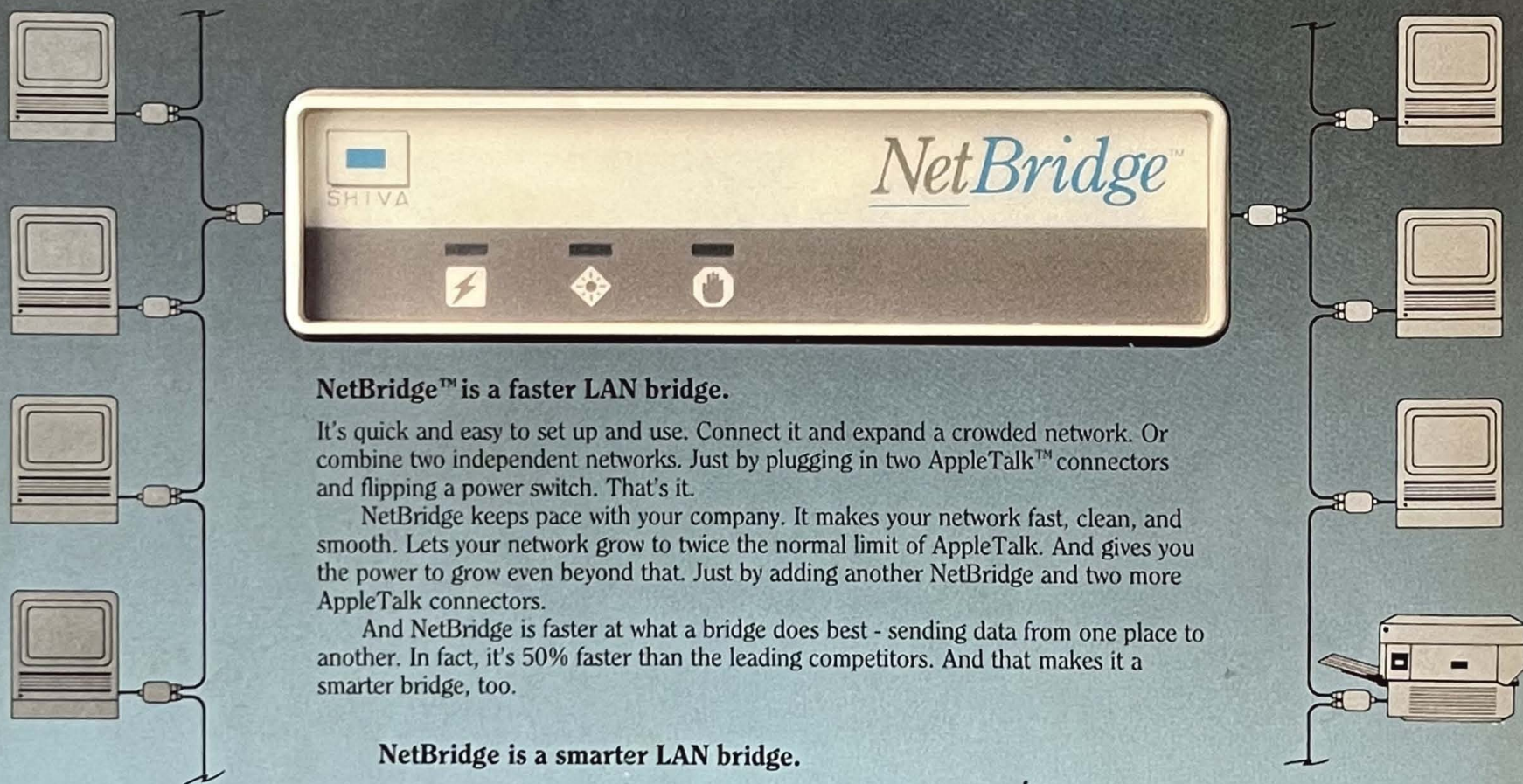
 **Farallon**™

2150 Kittredge Street, Berkeley, CA 94704

NetBridge:

50% faster

100% smarter



NetBridge™ is a faster LAN bridge.

It's quick and easy to set up and use. Connect it and expand a crowded network. Or combine two independent networks. Just by plugging in two AppleTalk™ connectors and flipping a power switch. That's it.

NetBridge keeps pace with your company. It makes your network fast, clean, and smooth. Lets your network grow to twice the normal limit of AppleTalk. And gives you the power to grow even beyond that. Just by adding another NetBridge and two more AppleTalk connectors.

And NetBridge is faster at what a bridge does best - sending data from one place to another. In fact, it's 50% faster than the leading competitors. And that makes it a smarter bridge, too.

NetBridge is a smarter LAN bridge.

It has sophisticated software that lets you organize your network logically and easily.

Group networks into zones. Name these zones for workgroups or departments. Now your internetwork is configured to meet the needs of its users. Traffic is routed in the most efficient ways. Performance degradation is a thing of the past. Your network runs smoothly and operates at its fullest potential.

NetBridge software provides security, too. You can restrict the visibility of zones to one another. Keep specific zones segregated from part or all of the internetwork. Control heavy traffic by restricting it to certain parts of the system.

And if internetwork organization is unnecessary, simply forget about the software. NetBridge is smart enough to give you all the benefits of a bridge as soon as it's plugged in. Without so much as touching a floppy.

So, if your AppleTalk network is straining at 20 nodes, or your PhoneNET® network is not what it used to be, try a NetBridge. It's a faster bridge and a smarter bridge. And that makes it the best bridge. Dealer inquiries welcome.

**SPECIAL
INTRODUCTORY
PRICE
\$399***

Shiva Corporation
155 Second Street
Cambridge, MA 02142
800-458-3550

*The list price of the NetBridge will increase to \$499, December 1, 1988.

Trademarks: NetBridge - Shiva Corporation; AppleTalk - Apple Computer, Inc.
Registered Trademarks: PhoneNET - Farallon Computing, Inc.

Shiva